

**Schedule of daily lectures/practical topics to be covered and name of the faculty proposed to be engaged during the CAFT Training Programme on “Climate smart strategies to increase input use efficiency of soil and water resources”:**

<b>CLIMATE SMART STRATEGIES TO INCREASE INPUT USE EFFICIENCY OF SOIL AND WATER RESOURCES</b>		
<b>Nov. 28, 2023 Day-1 (Tuesday)</b>		
0930-1030hrs		Registration
1030- 1130 hrs		Inaugural Function
1130-1300 hrs	Visit to Soil Science & Uppal Water Resource Museum	Dr. Vijay Kant Singh Pedologist PAU, Ludhiana
1430-1700 hrs	An overview on climate smart strategies to increase input use efficiency of soil and water resources	Dr Dhanwinder Singh Director, CAFT & HOD, Soil Science PAU, Ludhiana
<b>Nov. 29, 2023 (Wednesday), Day-2</b>		
0930-1100 hrs	RCTs: As a tool for climate smart agriculture to increase input use efficiency	Dr. Yadvinder Singh INSA Senior Scientist
1130-1300 hrs	Carbon sequestration: a climate smart strategy to increase input use efficiency of soil and water resources	Dr. D.K. Benbi ICAR National Professor
1400'-1700hrs	Use of ICAP-AES/ICAP MS in soil and plant analysis (P) for efficient nutrient management	Dr. Dhanwinder Singh / Dr Sumita Chandel Principal Soil Chemist PAU, Ludhiana
<b>Nov. 30, 2023 (Thursday), Day-3</b>		
0930-1100 hrs	Climate change: Impacts on SPAC	Dr. S.K. Jalota, Emeritus Scientist (Rtd)
1130-1300hrs	Ecosystem based natural resource management	Dr Raj Kumar

	for higher efficiency	LPU
1430-1600	Soil properties prediction based on multi spectral and hyper-spectral data	Dr Raj Setia Pb Remote Sensing centre Ludhiana
1600-1700 hrs	Remote sensing techniques for assessment of soil and water quality to enhance their use efficiency	Dr. Anil Sood Pb Remote Sensing centre Ludhiana
<b>Dec 1, 2023 (Friday), Day -4</b>		
0930- 1100 hrs	Use of reflectance spectroscopy in assessing soil properties for enhancing nutrient use efficiency	Dr. B S Sekhon Professor PAU, Ludhiana
1130-1300 hrs	Integrated nutrient management for higher farm income	Dr. Bijay-Singh INSA Senior Scientist
1430-1700 hrs	Measurements of Green House Gases	Dr. G.S.Dheri Dept of Soil Science PAU, Ludhiana
<b>Dec 2, 2023 (Saturday), Day -5</b>		
0930- 1100 hrs	Weather forecasting: an indispensable strategy to enhance water and nutrient use efficiency	Dr. Prabhjyot Kaur Sidhu Dept of Climate Change & Agricultural Meteorology PAU, Ludhiana
1130-1300 hrs	Agronomic bio-fortification of food crops for better human nutrition	Dr Hari Ram Principal Agronomist Dept. of PBGB
<b>Dec 3, 2023 SUNDAY Day-6</b>		
<b>Dec 4, 2023 (Monday) Day-7</b>		
0930- 1100 hrs	Developing climate smart resilience agriculture farming systems for sustainability	Dr..H.S.Jat ICAR-CSSRI- Karnal
1130-1300 hrs	Drip irrigation and fertigation for enhancing water and fertilizer use efficiency	Dr. Rakesh Sharda, Principal Extension Specialist (SWE) PAU, Ludhiana

1430-1700 hrs	Field visit to micro-irrigation systems and protected cultivation	Dr. Rakesh Sharda Principal Extension Specialist (SWE) PAU, Ludhiana
<b>Dec 5, 2023 (Tuesday), Day-8</b>		
0930- 1030 hrs	Hands-on training on crop modelling for efficient resource management in changing climate	Dr. Harsimran Kaur Asstt. Professor Dept of Soil Science PAU, Ludhiana
1030-1130 hrs	Climate smart agronomic and water management interventions for enhancing water use efficiency agronomic and water management	Dr. A S Brar Principal Agronomist PAU, Ludhiana
1200-1300 hrs	Artificial intelligence in agriculture: Opportunities and challenges	Dr. O P Gupta Associate director, IT
1430-1700 hrs	Field training on LCC, SPAD meter and GreenSeeker	Dr. V.P. Singh Principal Soil Chemist Dept of Soil Science PAU, Ludhiana
<b>Dec 6, 2023 (Wednesday), Day-8</b>		
0930-1100 hrs	Waste waters a boon or bane for efficient nutrient water use	Dr. R. Sikka Principal Soil Chemist PAU, Ludhiana
1130- 1300 hrs	Residue mulching: An intervention for improving soil thermal regime and water use efficiency	Dr. M S Kahlon Principal Soil Physicist PAU, Ludhiana
1430-1700 hrs	Nano scale fertilizers vis a vis nutrient efficiency	Dr. Anu Kalia Scientist (Nanotechnology) PAU, Ludhiana
<b>Dec 7, 2023 (Thursday), Day-9</b>		
0930-1100 hrs	Soil physical health vis-à-vis soil and water resource efficiency	Dr. V.K. Arora Sr Soil Physicist (Retd)
1130-1300 hrs	Soil CHEMICAL health vis-à-vis soil and water resource efficiency	Dr. Vikas Sharma HOD

		Department of Soil Science SQUAST, Jammu
1430-1700 hrs	Soil biological health vis-à-vis soil and water resource efficiency	Dr. Sanjay Arora Principal Scientist (Soil Sci) ICAR-CSSRI Lucknow
<b>Dec 8, 2023 (Friday), Day-10</b>		
0930- 1100 hrs	Role of climate smart machinery agricultural machinery in enhancing sustaining intensive agriculture	Dr. Gursahib Singh Addl. Director Research PAU, Ludhiana
1130-1300 hrs	Role of micronutrients in enhancing input use efficiency under changing climatic scenario	Dr. A.K.Shukla Project Coordinator ICAR-IISS, Bhopal
1430-1700 hrs	Determination of micronutrients and pollutant elements using AAS (P)	Dr. Vivek Sharma Sr Soil Chemist PAU, Ludhiana
<b>Dec. 9, 2023 (Saturday), Day-11</b>		
0930-1030 hrs	Climate smart breeding and varietal intervention for higher input use efficiency	Dr. G S Mangat ADR Crop Improvement PAU, Ludhiana
1030-1130 hrs	Bio-fertilizers: helping towards regenerative and efficient resource use	Dr. (Ms.) Seema Garcha Microbiologist PAU, Ludhiana
1200-1300 hrs	Agro forestry vis-a-vis natural resource conservation under changing climate	Dr. Sanjeev Chauhan Prof & HOD (Forestry) PAU, Ludhiana
1430-1700 hrs	Determination of enzyme activities in soil for sustainable intensive agriculture (P)	Dr. Sandeep Sharma Soil Microbiologist PAU, Ludhiana
<b>Dec 10, SUNDAY Day-12</b>		
<b>Dec 11, 2023 (Monday), Day-13</b>		
0930-1100 hrs	Agricultural field experiments-principles and practices	Dr. J S Deol Prof of Agronomy Dept. of Agronomy

1130-1300 hrs	Statistical interpretations of field experiments	Dr. Pritpal Singh Assoc Prof (Stat) PAU, Ludhiana
1430-1700 hrs	R for basic statistical analysis and graphics	Dr. Dharminder Bhatia PBGB, PAU, Ludhiana
<b>Dec. 12, 2023 (Tuesday), Day-14</b>		
0930- 1100 hrs	Crop simulation modeling: A tool to better understand changing climate and resource use interactions	Dr. BB Vashisht Principal Soil Physicist PAU, Ludhiana
1130-1300 hrs	Farming system: A strategy for efficient productivity and profitability	Dr. S S Walia Principal Agronomist PAU, Ludhiana
1430-1700 hrs	Mushroom production: Utilization of agro residues for efficient residue management and higher economic returns	Dr. Shammi Kapoor Dean, COBS&H PAU, Ludhiana
<b>Dec. 13, 2023 (Wednesday), Day-15</b>		
0930-1100 hrs	Efficient use of saline and sodic waters	Dr. O.P. Choudhary Professor, Soil Science PAU, Ludhiana
1130-1300 hrs	Organic farming: A tool for ecosystem management	Dr. C S Aulakh Principal Agronomist PAU, Ludhiana
1430-1700 hrs	Hands on training on efficient resource conservation implements for better soil health management	Dr. Manpreet Singh Dept of FMPE PAU, Ludhiana
<b>Dec. 14, 2023 (Thursday), Day-16</b>		
0930- 1100 hrs	Soil properties prediction based on multi spectral and hyper-spectral data	Dr Raj Setia Pb Remote Sensing centre Ludhiana
1130-1300 hrs	Minerals in Soil environment and their role towards resource use	Dr. S.S. Mukhopadhyaya Director EMN Lab (Retd.)
1430-1700 hrs	Practical training on measuring soil physical properties and visit to farm experiments	Dr. M.S. Kahlon & Dr. A S Toor PAU, Ludhiana

<b>Dec. 15, 2023 ( Friday), Day-17</b>		
0930- 1100 hrs	Integrated plant disease management for better resource use under changing climate	Dr. P P S Pannu Addl. Director Research PAU, Ludhiana
1130-1300 hrs	Assessment and amelioration of nutrient deficiencies for efficient resource use	Dr. G S Sodhi Addl. Director Extension PAU, Ludhiana
1430-1700 hrs	Interaction with participants	Expert CAFT
<b>Dec 16, 2023 (Saturday), Day-18</b>		
0930-1100 hrs	Utilization of surplus crop residues for producing biochar and analysis of carbon and nitrogen on CHNS analyzer	Dr M S Mavi Senior Soil Chemist PAU, Ludhiana
1130-1700 hrs	Presentations by the participants	Drs. R Sikka, BB Vashisht, Sandeep Sharma & M S Kahlon
<b>Dec. 17, 2023 (Sunday), Day-19 SUNDAY</b>		
<b>Dec. 18, 2023 (Monday), Day-20 FIELD TRIP Dr. M S Kahlon</b>		
<b>Dec. 19, 2023 (Tuesday), Day-21 1030 onwards CONCLUDING FUNCTION</b>		