

## INSTITUTIONAL DISTINCTIVENESS

Sirmour is the most backward districts of Himachal Pradesh with very high proportion of small and medium farmers with least awareness of recent advances and initiatives for their inclusive and holistic development. Situated in the strategic reion the Eternal University is focusing on the inclusive development of the villages cluster around Baru Sahib through extension activities including training courses, workshops, field visits and Kissan Melas. The feedback from the farmers is used as the basis for planning and undertaking our extension activities. To give impetus to the region specific research on thrust areas the number of seats at Masters and Ph.D. levels has been increased, Adequate infrastructure, laboratory facilities are being created, and highly qualified faculty has been employed. The state of the art laboratories have been established though the university as well as the DBT, DST and HP Govt. funded projects for more than Rs 3 crores. High yielding biofortified wheat lines with high grain Zn and Fe have been developed and are being tested in multilocation field trials for commercial cultivation. A number of maize composite cultivars with improved nutritional quality characteristics including essential amino acids tryptophan and lysine, beta carotene and anthocyanin in various combinations have been developed through molecular breeding for commercial cultivation. A grant of Rs 75 lakhs from MoFPI has been utilized to establish three pilot plants viz Bakery, Extrusion products and Fruits and vegetable processing for training of students and local farmers and entrepreneurs in food processing and value addition. A variety of nanoparticles have been developed which are being tested for their use in diverse applications. Diverse germplasm of a number of functional food crops including barley, oats buckwheat, pearl millet, finger millet, amaranths, foxtail millet, soybean, sweet sorghum has been procured and is being evaluated and improved for release for cultivation in the region. Baru Sahib and its adjoining areas are very rich in biodiversity of medicinal and aromatic plants. Therefore, RD on their biodiversity analysis, characterization of phytoconstituents, bioactivities and formulation of various herbal products is the main focus Presently, more than 100 medicinal plants have been introduced in the Herbalcum Botanical Garden. The cytomorphological, phytochemical, pharmacological, morphoanatomical and RAPD marker assisted profiling, invitro biological activities of various medicinal plants of genera viz., *Valeriana*, *Berberis*, *Dioscorea*, *Gentiana*, *Plectranthus*, *Colebrookea*, *Scutellaria*, *Adhatoda*, *Tinospora*, *Physalis*, *Roylea*, *Boerhavia* and *Withania* etc., have been completed. A perennial and winter hardy ecotype of *Withania somnifera* with high amount of withanolides in leaves has been identified. The fecal samples of sheep, goat, cow and buffaloes of Sirmour have revealed the prevalence of various nematode and helminth parasites belonging to various genera. In addition, the oocysts of unicellular eukaryotic protozoan parasite Eimeriasp. were also detected in the fecal samples of livestock animals from the study areas. . A total 425 endophytic and rhizospheric bacteria have been isolated and screened for potassium, phosphorus and zinc solubilization, plant growth promoting (PGP) attributes, production of siderophores, IAA and ACC deaminase activity.