



1. Title	Development of Lab. Facilities for Organic Food Analysis
2. Category	Agriculture(Agri-infrastructure development)
3. Challenge	<p>Food security, nutritional quality and safety vary widely around the world. Reaching these three goals is one of the major challenges for the near future. The industrialized production methods have severe limitations such as a worldwide contamination of the food chain and water by persistent pesticide residues, reduced nutrient and flavour contents through low-cost intensive food production.</p> <p>About half of the total pesticides used in Haryana are consumed in cottons and vegetables with herbicides being prominent for controlling weeds in rice-wheat system. The reports of pesticide contamination in soils, plants and waters are well known. In addition to this, sewage sludge containing both, beneficial as well as toxic ions are produced by different sewage treatment plants located in different towns of Haryana and could be potent source of nutrients in crop production. Due care is required while using such wastes as these may result in the simultaneous addition of hazards metal ions. Regular application of such materials may result in their build up in soils and subsequently transferred to the crops especially the vegetable and animal fodder grown in the vicinities of urban areas. There is need to regularly monitor the quality of the farm produce to detect the entry of toxic ions in the food chain.</p>
4. Initiative	<p>There is need to regularly monitor the quality of the farm produce to detect the pesticide residues, nitrates in vegetables, mycotoxins and toxic metals. Much of the debate concerns the merits of organic agriculture which is often seen by the public as producing food free of chemicals and being more environmentally friendly.</p> <p>In view of this, CCS Haryana Agricultural University, has taken the initiative of creating laboratory facilities for testing, training and research in "organic food" production.</p> <p>The laboratory must be equipped with high precision equipments under one roof. Certification requirements also demand that the sample preparation unit should also be attached with analytical laboratory.</p> <p>In view of the above, there was need to create laboratory facilities for the analysis of food/feed/cereals and other crop samples grown organically.</p> <p>To create this type of facilities-</p> <ol style="list-style-type: none"> <li>a). The laboratory has been modified/constructed as per NABL requirement</li> <li>b). Infrastructure of the laboratory has been created.</li> <li>c). Major equipments such as GC, GC-MS/MS, HPLC and other small equipments under RKVY Project, have been installed. The costly equipments such as LC-MS/MS, ICP will be added in near future.</li> <li>d). Facilities for sample storage, separate gas chamber and power back-up through Gen set have been created.</li> <li>e). Facilities for processing of samples have been created.</li> </ol>

5.Key result	A large number of samples for herbicide residues have been analyzed and attempts have been made to get aware of the farmers of its contamination of soil and water to prevent the indiscriminate use of the herbicides.
6.Impact	The indiscriminate use of pesticides will be decreased.
7.Lessons Learned	To do the farmer's sample for the pesticide residues Staff as well as contingent grant for chemicals etc. Will be required.
8. Supporting Quotes and Images	 <p data-bbox="437 1037 695 1070">GC MS/MS System</p> 
9. Additional information	NIL