
Departmental Seminar

Seminar Title	: Return seminar-ASSESSMENT OF THE MODIFIED OIL EXTRACTION PROCESS FOR VALORIZATION OF JOJOBA OILCAKE
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Venue	: CH 306
Date and Time	: 25 Sep 2024 (17.15)
Abstract	: The pressing concerns of sustainability and the principles of circular bio-economy have driven our focus to acquire valuable commodities from underutilized wild crops, agricultural biomass, and food industry by-products, notably oil cakes. Jojoba (<i>Simmondsia chinensis</i>) is known for its highly versatile oil, which has good therapeutic and cosmetic applications. The residual meal, rich in protein (26-29%), is unexploited and limited for use in food systems due to the existence of antinutritional factors (mostly in the seed coat). This study was attempted to investigate the potential of jojoba oil cake for production of alternative proteins and sets its primary emphasis on modifying the process of oil extraction so that the residue could be utilized for food purposes. Dried and clean jojoba seeds were taken for oil extraction. Modification in oil extraction treatments like cold pressing and mechanical dehulling were done. Following that, protein was extracted from the residue and its characterization was done to advance the understanding of jojoba protein. The results showed that the process of dehulling resulted in a significant decrease in antinutritional factors with increase in purity (>80%). However, the techno functional attributes of protein improved with cold pressing, when compared to other treatments. The stability and morphology of proteins assessed by DSC and SEM also showed promising results for cold pressed proteins. Thus, it can be concluded that cold pressing before oil extraction could yield proteins for subsequent utilization in the food industry, leading to waste reduction while contributing to sustainability. KEYWORDS: By-product valorization; process modification; alternative proteins; sustainability; food security.