

DEVELOPMENT OF AN OPTIMIZED TECHNOLOGY PLAN FOR PRODUCING DRY EXTRACTS OF SILYBUM (MILK THISTLE) AND GLYCYRRHIZA (LICORICE) ROOT

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Abstract: This thesis explores the development of a comprehensive technology plan aimed at obtaining high-quality dry extracts from Silybum and Glycyrrhiza roots, two botanical sources renowned for their medicinal properties. The proposed technology plan encompasses a systematic approach involving research, experimentation, optimization, and implementation stages.

Keywords: Silybum, Glycyrrhiza, dry extract

Through an extensive literature review, the chemical composition, pharmacological activities, and existing extraction methodologies of Silybum and Glycyrrhiza roots are thoroughly examined. Building upon this foundational knowledge, the thesis outlines a strategy for raw material sourcing, ensuring the acquisition of premium-quality plant materials essential for extract production.

The heart of the technology plan lies in the selection and optimization of extraction methods. Various extraction techniques, including solvent extraction, supercritical fluid extraction, and microwave-assisted extraction, are evaluated and compared based on parameters such as efficiency, yield, and safety. Experimental design principles are employed to systematically optimize extraction parameters, leading to the development of an efficient and scalable extraction process.

Furthermore, the thesis addresses critical aspects of drying and powdering the extracts to preserve their integrity and enhance stability. Quality control and assurance measures are integrated throughout the production process to ensure the consistency, purity, and compliance of the dry extracts with regulatory standards.

Ultimately, this research contributes to the advancement of herbal extract production by providing a comprehensive roadmap for obtaining dry extracts of Silybum and Glycyrrhiza roots, with implications for pharmaceutical, nutraceutical, and cosmetic industries.

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