

RHODES 2024: Innovative nutrient recovery from digestate through integrated crystallization and stripping technologies

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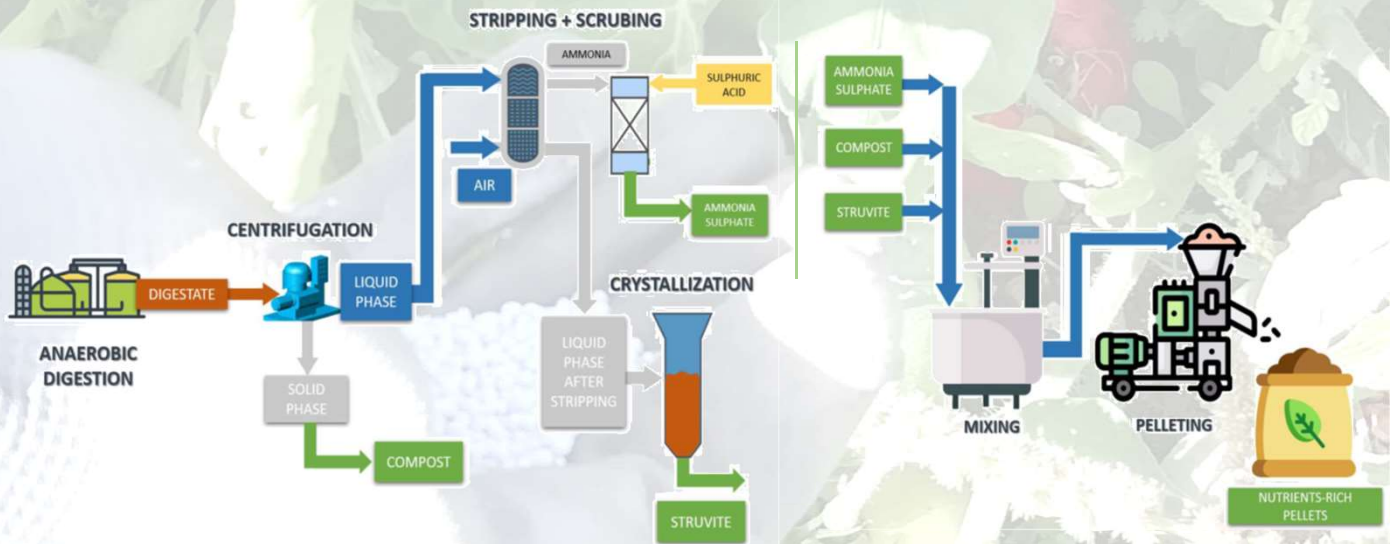
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Introduction

In recent years, the agricultural industry has witnessed a growing interest in sustainable waste management practices, particularly concerning the utilization of **digestate**, a byproduct of anaerobic digestion processes.

ECOVITA project proposes a novel and comprehensive solution that combines the strengths of struvite crystallization and ammonia stripping, contributing to the advancement of sustainable agriculture practices.

ECOVITA technology: Overcoming challenges and setting new paradigms



The ECOVITA project introduces a paradigm shift in nutrient recovery from digestate by addressing key challenges associated with existing technologies.

Crystallization reactors, striking the balance between chemistry and fluid dynamics: ECOVITA places a significant focus on crystallization reactors for struvite production. By combining chemical reactions with fluid dynamics, the project has successfully developed **redesigned reactors** that ensure optimal performance.

Integrating crystallization and stripping technologies: ECOVITA tackles the challenge of **integrating crystallization and stripping** by harmonizing the two processes to ensure synchronization.

Upscaling struvite recovery for industrial applications: ECOVITA seeks to transcend limitations by applying its innovative process to **large-scale agricultural operations**.

Novel fertilizer synthesis through pelletization: ECOVITA pioneers the synthesis of **new fertilizers** through the **synergistic pelleting of compost, struvite, and ammonium salts**.

Environmental sustainability: ECOVITA aligns with the principles of the circular economy by **integrating nutrient recovery technologies into anaerobic digestion plants**.

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