

EXCEALGEST™



EXCEL
INTERNATIONAL, INC.

THE WORLD IS IN OUR REACH

Since 1990 - Virginia - USA

Technical Capabilities for
Hazardous and Toxic Waste Water Processing



NEED

A cost-effective alternative to default sewage waste mitigation.





NEED

- Effective change comes from a demonstrated economic advantage.
- Solve the financial problem
 - ExcelAgest™ constructs, owns and operates individual waste processing plants, configures larger lake treatment programs and revenues will be generated from aspects of processed materials and ongoing operations paid by the municipality.
 - ExcelAgest™ Revenues will be derived from methane gas, CO₂, electricity, effluent and bio-solids.



CLAIM

- ExcelAgest's Phase Enhancement Process (PEP) is unlike any other conventional anaerobic digestion system as it isolates every biological phase of waste decomposition and optimizes the conditions that promote increased metabolic activity, thereby effectively yielding commercial quality byproducts.
- ExcelAgest's PEP plants can process 100% of waste produced in a 24 hour period, not 20-30 days like other systems.



CLAIM

- ExcelAgest™ PEP system achieves a reduction of volatile solids and chemical oxygen demand (“COD”) of 100 percent. Improved bacterial strain selections metabolize more organics and convert more of the volatile solids to biogas. This results in no impurities that create a corrosive environment due to unwanted hydrogen sulfite byproducts.
- Conclusion: the ExcelAgest™ PEP system is considerably more efficient, clean and green

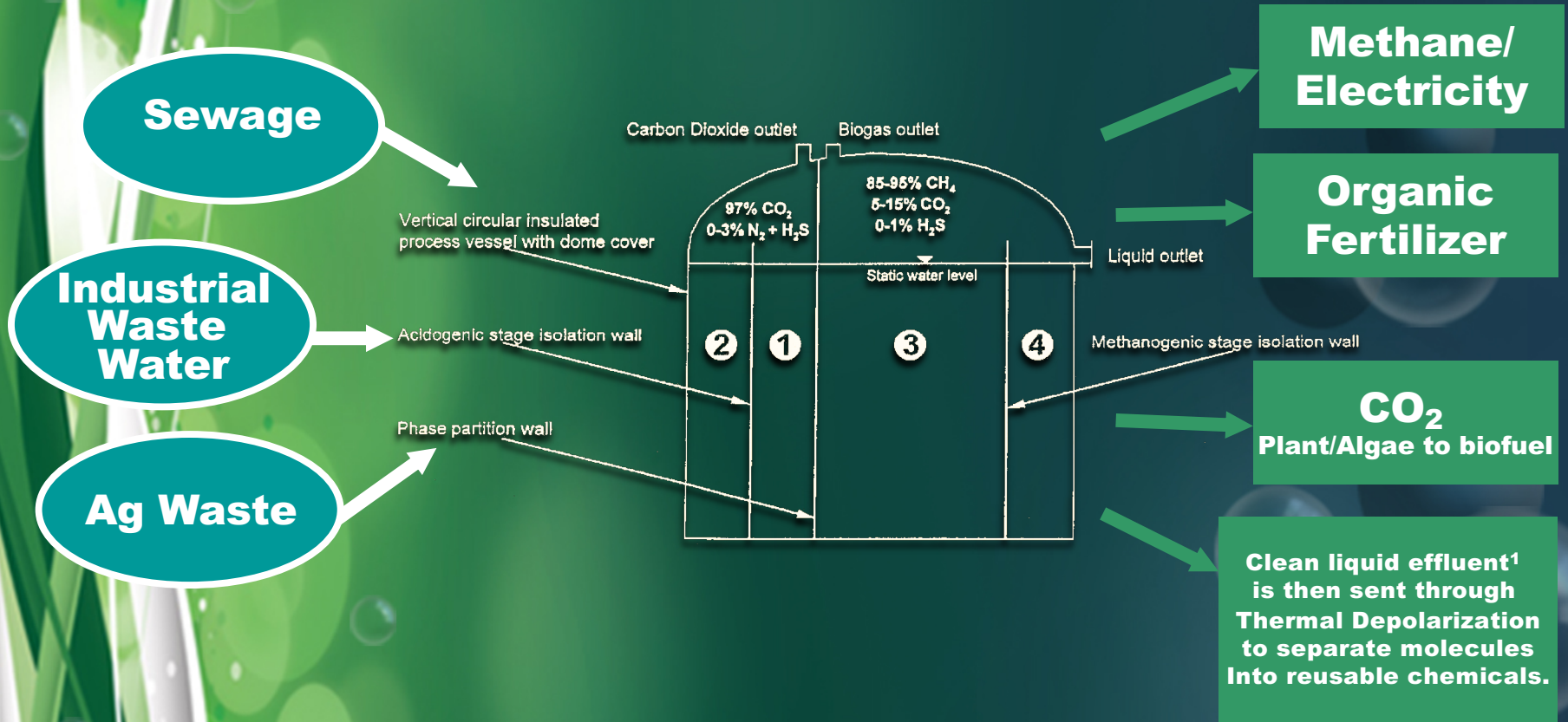


SOLUTION

- ExcelAgest™ PEP system converts organic biomass into 98% pure methane in an optimized anaerobic digestion process by using a two-phase, two-stage, thermophillic, fixed growth treatment with precise process controls. This process isolates and optimizes every biological phase with the purpose of purifying usable outputs.
- ExcelAgest's facilities reduce nearly all volatile solids to organic acids and other intermediates by proprietary hydrolytic and acidogenic bacteria that help process what other systems can't-- hemicellulose and lignin.
- [It should be noted that most anaerobic digestion facilities use a single stage systems where essential reactions (hydrolysis/acidification, acetogenesis and methanogenesis) occur simultaneously within a single vessel.]



SOLUTION



¹Clean defined by an EPA "E1" designation



SOLUTION-Environmental Benefits

Reduce Greenhouse Gases

- Manure left in the open to biodegrade will produce methane, a greenhouse gas.
- As a greenhouse gas, methane is 20 times more harmful than CO₂.
- One pound of methane gas discharged into the atmosphere produces a greenhouse effect equal to 20 pounds of CO₂
- The methane fuel combustion process produces CO₂. However, after combustion, one pound of Methane gas produces 2.75 pounds of CO₂ achieving a reduction of 20/2.75 or 727% greenhouse effect improvement.
- The CO₂ itself can also be captured and used to produce biofuel and chemicals through various natural processes of photosynthesis.

Protect Ground Water

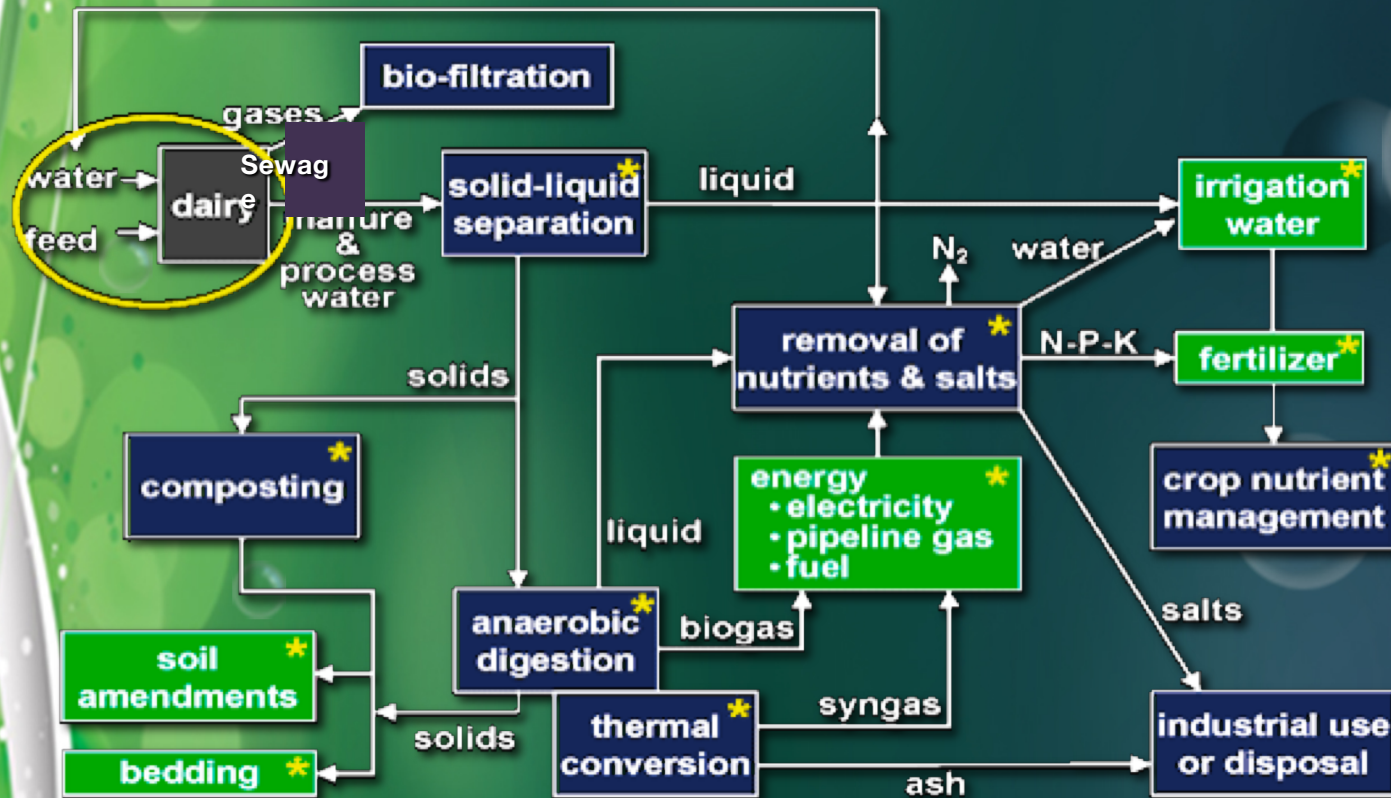
- Manure, slaughterhouse and agricultural waste can have a serious impact on ground water and runoff into streams and lakes.



Patents & Inventions

- Method of Increasing a gaseous component in a body fluid.
- Treatment of fluid – Master Patent.
- Device and method for molecular polarization in water – Master patent.
- Recycling of humidifier cylinders.

INNOVATIVE-Preventing pollution is often more cost-effective than addressing pollution after it enters the environment.





END RESULT



New resources for a greener world.