

Presentation made at “Discover
Conference: Nitrogen Emissions
to the Atmosphere from Livestock
and Poultry Operations”

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New Technologies on the Horizon

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- **In addition to the 18 technologies under evaluation at NC State Animal and Poultry Waste Management Center (see website: www.cals.ncsu.edu/waste_mgt/ for regular updates and reports), there are numerous other systems on the horizon.....**

Electrocoagulation

- **Solids separation for composting, etc.**
- **Electrolytic treatment of wastewater**
- **Sludge to solids**
- **Ammonia/nitrogen stripping system**
- **Typical results (effluent):**

Nitrogen- 96% reduction

Ammonia- 99% reduction

BOD- 97% reduction

Bioprocess

- **High rate ammonia reduction system**
- **Tensioned media modules adaptable to need**
- **Microbial colonization on media**
- **Reduction in BOD and ammonia expected to be greater than 75%**
- **To be evaluated at NC State in 2002**
- **Currently under test by Cocoa-Cola**
- **Cost of system estimated to be modest**

Recovery Systems, Inc.

- Two step process- on farm and central
- On farm separation of ammonia for NH_4SO_4
- Water cleanup for reuse
- Solids to central processing
- Marketed components: NH_4 fertilizer; feed residues; organic sludge/fertilizer
- IMC interested

IBAC/ATARA

- Compact and integrated combinations of anaerobic, aerobic, anoxic cells
- Able to be built in modules
- Small footprint with remote control
- Ammonia reduction >90%
- Swine waste, food processing (BOD to 25,000)
- Operations in Canada and China

The Horizon Looks Interesting