

**Bryan Sievers
AgriReNew
And
Sievers Family
Farms**

**Midwest
Food
Recovery
Summit**



AgriReNew



**Recycling Farm Nutrients and Agricultural
Processing Waste for
Energy Generation, Water Quality, and Soil
Health**

Primary Function of AgriReNew

- ▶ The primary function of AgriReNew, located near Stockton, Iowa, is to recycle farm nutrients, biomass, and other carbon-based substrates for energy generation and odor control. Specifically, the business recycles beef cattle manure, waste from agricultural and food processing, and biomass (crop residues) through anaerobic digesters. This process will produce renewable biogas, recapture nutrients used to grow the corn fed to the cattle, and produce positive environmental results.

- ▶ AgriReNew is a joint venture between Sievers Family Farms, LLC, Sievers Renewable Energy, LLC, and Davidson Renewable Energy, LLC. Sievers Family Farms and Sievers Renewable Energy are owned by Bryan and Lisa Sievers. Davidson Renewable Energy is owned by Dr. Bill Davidson III and his wife Judy.
- ▶ AgriReNew owns all structures needed for the processing enterprise. Structures include two anaerobic digesters, effluent storage structures, separated solids storage structures, biomass storage structures, separators, dosing units, pumps, etc. The facility is located between Stockton and New Liberty, which is in the northwest corner of Scott County, Iowa.



- ▶ Sievers Family Farms, LLC, established in February 2010 by Bryan and Lisa Sievers, owns the land where AgriReNew's complete-mix anaerobic digesters and facilities are located. Structures owned by Sievers Family Farms include two 1200 head cattle barns, commodity storage structures, and livestock nutrient handling equipment.

Sievers Family Farms Junior Executives

















Your Iowa Waste Reduction Center Staff...

The anaerobic digestion of food waste has many benefits!

Climate Change Mitigation - Food waste in landfills generates methane, a potent greenhouse gas.

Diverting food waste from landfills to anaerobic digesters and wastewater treatment facilities allows for the capture of the methane, which can be used as an energy source. In addition to decreased methane emissions at landfills, there are greenhouse gas emissions reductions due to the energy offsets provided by using an on-site, renewable source of energy.

Why Food Waste?

Food waste is the second largest category of municipal solid waste (MSW) sent to landfills in the United States, accounting for approximately 18% of the waste stream. Over 30 million tons of food waste are sent to landfills each year. Of the less than 3% of food waste currently being diverted from landfills, most of it is being composted to produce a fertilizer.

Manure Varies from Site to Site





Off-Farm High Solids Feedstocks



soy-oil
Waste,
Glycerin ,
Animal
Processing
Waste



Biomass from Cover Crops



Double crop soybeans following cover crop harvest as biomass for digesters



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Current Level of Energy Production

Production	2016	2017	% Change
MMBTU (CH ₄)	58,909.80	97,517.69	65.54%
Electricity (kWh)	5,707,087	6,742,081	18.14%



MooPost™



AgriReNew

Current Level of Fertilizer Production

Fertilizer product	2016	2017	% Change
Digestate (gallons)	15,035,988	20,585,455	36.9%
Liquid Effluent (gallons)	12,329,510	16,880,073	36.9%
Bio fibers (pounds)	22,586,921	25,902,915	14.68%



AgriReNew

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An innovative way to capture the beneficial aspects of renewable energy generation from biomass conversion, beef cattle production, and agricultural processing waste.