



Methane to Markets

Agriculture country updates
CINTERMEX Monterrey Mexico

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Argentina update 2008

- Several meetings and a national white paper has been developed in order to create Ag M2M Argentina. Several secretaries of state Universities research institutions and private firms are included.
- INTA has created a new national bioenergy program, under which AD is supported as a bioenergy source.
 - Three projects are in progress with research and extension activities
 - New staff was incorporate and a German expert on biogas through CIM
 - Two research digesters are operating in Castelar research centre and two more will be implemented during 2009 (Beijing Expo projects).
 - GIS bioenergy resource study has been finished at a national level and is now being implemented at a province level.
 - Several workshops and demonstrations have been held in different parts of the country
 - There were also specific study trips to farm units in Argentina and Brasil with farmers

Argentina update 2008

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- Sec of Agriculture has designed a responsible for AD regarding animal waste Miguel Iribarren and is planning demonstrative plant funding for 2009
- More than 10 AD projects have been detected over the past year.
- U.S. EPA is collaborating with INTA to develop a country resource assessment study
 - A field mission has been accomplished and final report delivered.
 - Future work will include pre-feasibility studies and demonstration project

Research digester I Food waste



High efficient dairy farm digester II



Biogas production from slurry and dung from pig facilities

Cabañas Argentinas del Sol
Biogas Plant in Marcos Paz, Prov. BsAs
Fact Finding Mission - 30/12/2008

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General facts of the plant - overview

- The company Cabañas Argentinas del Sol is operating a biogas plant, which is situated 50 km southwest of Buenos Aires.
- The plant is running on dung and slurry / liquid manure from pigs.
- Its fermentation volume is about 2.250m³, plitted into three fermentation units.
- They calculated a daily feedstock input of about 25 t.
- The high profitable biogas plant is now three years under operation.
- The plant has been constructed by: www.sansuy.com.br

General facts of the plant – technical overview

	Units
Fermenters	3
Capacity of receptions pre-tank	3 m³
Total fermenter volume	2.250 m³
Retention time of biomass	25-30 days
Operating temperature of the fermentation	36 °C
Daily biogas production	390 m³
Anual biogas production	aprox. 120.000 m³
Content of methan of produced biogas	50-55 %
Content of slurries dry matter	5 %
Fermenter construction time	3 month

Bird eye view of the facility Cabañas Argentina del Sol



1. Open pig stables
2. Old pig slurry lagoons
3. Silo storage for soy beans
4. Location of the new biogas plant
5. Location of the new biogas slurry lagoons

Over- and underground slurry pipelines



The plant is located about 300 m away from the open pig stabels. On the pig production site they use open u-size pipes to accumulate the slurry. Than the liquid manure is running through the underground pipes to feed, first the open pre-tank and than stepwise the three fermenters.

The open pre-tank



While the slurry is running through the open pipes at the pig facility extraneous materials could unintentionally be inserted. To control and to clean the slurry before entering the fermenters through the intake pipes they implemented an open pre-tank. From here it is possible to supply the three fermenters together and also separately.

Biogas pipes with a security valve and the biogas filter



At the front end of the fermenters they installed a pressure sensitive valve, operating over 1,2 bar. The iron-filter cleans the biogas from hydrosulfides (H_2S).

Lagoons for the biogas slurry



The residues from the fermentation process – the biogas slurry - will be stored in new open lagoons. With this slurry they can fertilize the fields for cultivating soy, maize and wheat much more precisely. The slurry's nutrients are much faster available for the crops. And the slurry is no longer emitting putrid smell.

Open pig stables



At the open stables, the pigs are producing the feedstock for the fermentation. One breeding sow is producing about 20 to 25 kilos of slurry, each day. At this site they have 1.200 breeding sows and 10.000 pigs in total. Each stable has a slurry storage capacity of 1 month in total.

The use of the biogas



The produced biogas is used for the water heater to warm the farrows, to feed the drying and the “deactivation” system at the soy storages and also to operate an automotive engine of a ford truck and a generator, for electricity production (capacity ~50 KVA).

The deactivation of the soy beans



The deactivation of the soy is a thermal process. In former times they used natural gas to operate the ovens. Nowadays they are running with biogas.

They are saving more than 3.000 U\$ each month by using their own biogas.