

FIRESTONE BIODIGESTER IN AGRICULTURAL SCHOOL, TURNS SEWER ORGANIC MATTER INTO GAS, FERTILIZER AND ENERGY SAVING.



Firestone Specialty Products, Latin America and Caribbean is having in Brazil a huge success in the usage of biodigesters. This market is developing every day considering that it promotes the green and recycle concepts, to preserve our planet; that is today a driving force in the strategies and messages of most companies and organizations, globally, including Firestone.

FSSP in Brazil, has developed a manual for the installation, applications and benefits of biodigesters.

There are a lot of companies in Brazil that are understanding and adopting the use of biodigesters as a source of gas, fertilizer and as an energy saver. The government of Brazil, is taking advantages of the benefits of this system.

At the end of last year, in the agricultural school Astor de Matos of Cabrália Paulista -a municipality in the state of Sao Paulo-, Brazil, a biodigester came into operation.

The school has 200 students that will use the gas and results emanated from it, as a generator for lighting and cooking facilities at the school, as fertilizer of the farms in the area and, as a source of irrigation.

This is a pilot program. The government of Brazil is considering to expand this technology to hundreds of other rural schools in the country to help them to be self-sufficient in energy for cooking and lighting, irrigation, and heat.

The impact and benefits of this biodigester for that community are so important that this news was broadcasted by TV GLOBO "Jornal Nacional", the most popular TV National News on the Brazilian television.



The reporter from JN presenting in TV the new Biodigester operation in the Agricultural School Astor de Matos - Cabrália Paulista-Sao Paulo, Brazil.

About Biodigesters

The shortage energy sources for production purposes, cooling, heating and lighting is a serious problem faced by rural producers. In this way, the biodigester emerges as a solution to the energy production of biogas, and is used as fuel in place of natural gas or liquefied petroleum gas (LPG). It is produced by anaerobic process (absence of oxygen), where organic matter is decomposed by bacteria. The organic material used for feeding biodigesters can be derived from waste plant production (such as remains of culture), animal production (such as manure and urine) or of human activity (such as faeces, urine and household waste). The effluent can bring important benefits: the anaerobic biodigestion technology is an efficient utilization of waste, contributing environmental sanitation (effluent treatment), in addition to the production of biofertilizer. This, with excellent properties, is used as fertilizer on crops to significantly increase rural productivity.

The biodigester consists basically of a closed chamber which a biomass in general remains of animals mixed with water, is fermented anaerobically, in other with out the presence of oxygen. As a result of this fermentation occurs the release of biogas and the production of biofertilizer. It's possible therefore, set biodigester as a device.

Benefits

Biofertilizer

After the hydraulic retention time, the process of digestion becomes the material in biofertilizer wich provides high quality for agricultural use. It's an organic fertilizer, free of causative agents of diseases and pests to plants. We see also that the biofertilizer may contribute to reestablish the level of humus, as well as corrective work PH for the soil. The effects of biofertilizer in control of pests and diseases of plants have been highlighted. Fungistatic effects, bacteriostatic and on insect repellents have been found.

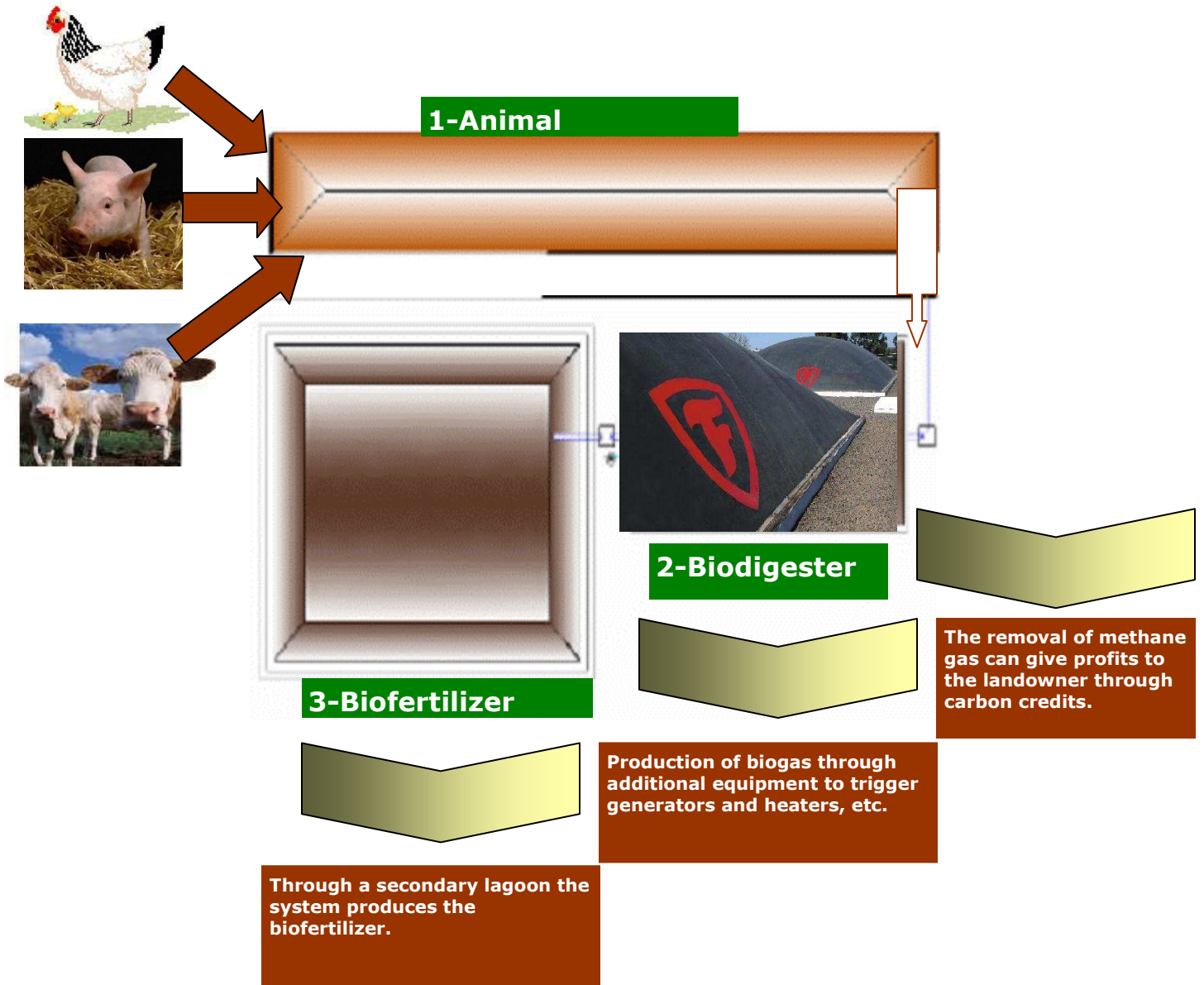
Biogas:

The gas produced during the anaerobic digestion is one of the goals ends of the process.

It is a mixture of gases, which stand out as methane (CH₄) and carbon dioxide (CO₂), representing, in general, 99% of total volume. The methane gives the biogas the fuel power, while carbon dioxide is an inert gas that only occupies volume of storage.

Carbon credits:

Carbon credits create a market for the reduction of greenhouse gases by giving a monetary value to pollution. Developed countries can promote the reduction of gases causing the greenhouse effect through the carbon market when purchasing carbon credits from those countries, like Brazil through anaerobic digestion processes.



Brazil: Installation of Firestone Biodigester at Astor de Matos Agricultural School, Sao Paulo.

1-Excavation



2-EPDM RubberGard installation process



3-Penetration Detail



4-Dome Installation



5-Dome Installation



6-Fixation EPDM in the beam



7/8/9-Firestone biodigester in activity



TV GLOBO "Jornal Nacional", the most prestigious news channel in Brazil, featured the biodigester system working at agricultural school Astor de Matos, state of Sao Paulo.



The reporter from JN presenting the new Biodigester project.



The reporter from JN covering the news at Agricultural school Astor de Matos.



A picture of the agricultural school Astor de Matos where the biodigester is being used.



Antonio Pereira de Novaes, one of the project coordinator, explaining the applications and use of the system for the school.



A student adjusting the measuring devices.



The biodigester in operation.



A professor explaining the importance of this system for the school and students in rural areas of Brazil.



The biodigester provides energy to equipments that irrigate the land and also to generators for lighting and cooking facilities at the school.