innovas News

Biogas Application 15/10

Disposal Plant for Fruit Processing Industry — Jain Irrigation Systems, Jalgaon, India

For one of the world's largest manufacturers of fruit concentrates and freeze-dried fruit, we have developed a disposal concept that could process all organic residues and wastes which are generated in the factory and the associated plantations. The waste will be changed into Energy but also valuable secondary products like compost and irrigation water.
The largest amount of those residuals - and this is also the more problematic waste, is processed in the biogas plant.
The biogas produced is converted into electricity, steam and cold water which is used almost exclusively for the self-supply of the fruit processing plants.

From the wooden waste, like banana stem, tree-cuttings and the non-digestible parts of the fruit waste, high-quality compost is produced, which is also very urgently needed in the own plantations.
After the rotting, the remaining inert woody components are sieved off and processed as biomass fuel.
This solid fuel is fired, together with coal, in the company's steam boiler and could replace expensive fossil Energy.
With this concept now the factory can make itself energy self-sufficient to more than 50%.

The Biogas plant, compost plant and the biomass processing has been designed and engineered by us. The detail design and the construction have been made by a division of Jain group under our supervision and license.
In the same time he had closed a know-how-transfer agreement with our Indian partners to enable them to use our technology and high efficient Biogas Plants in the Indian Subcontinent in the future.

This project was organized and managed by our subsidiary **BMK-*INNOVAS* GmbH**.

Technical Data

Fermenter Volume:	4 x 2,000 m³
Feed in quantity, up to and/or a space capacity of	max. 320 m³/d 3 kgODM/m³*d
Biogas yield Methane content	ca. 12,000 m³/d up to 64 % CH_4
CHPS (GE Jenbacher)	2 x 860 kW_{el}
Produced Compost	ca. 5,000 t/a
Additional Biomass Fuel	ca. 2,000 t/a

Applicable material for digestion:
All organic residuals und waste which is accruing by crowing, harvesting and processing of fruits can be used. For the Biogas plant all aqueous remains from mango, banana, papaya, pomegranates and tomatoes are foreseen.
Beside and out of fruit season the plant is operated with onion residuals and residuals from sugar industry like PMC (Press Mud Cake), molasses, etc..

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