

## What Is Bioreactor?

A bioreactor is a vessel in which is carried out a chemical process which involves organisms or biochemically active substances derived from such organisms.

Bioreactors are commonly cylindrical, ranging in size from some liter to cube meters, and are often made of stainless steel.



Bioreactor design is quite a complex engineering task. Under optimum conditions the microorganisms or cells will reproduce at an astounding rate. The vessel's environmental conditions like gas (i.e., air, oxygen, nitrogen, carbon dioxide) flowrates, temperature, pH and dissolved oxygen levels, and agitation speed need to be closely monitored and controlled.

## Philippines Largest Bioreactor

Vigan Bio-Reactor is the biggest Bio-reactor in the whole Philippines. The Bio-Reactor makes an organic fertilizer from biodegradable materials. The procedures in which the bio-reactor can make organic fertilizer are by:

Sorting- the process by which they will choose among the biodegradable materials can be use in the making of the organic fertilizer. Example: spoiled fruits and vegetables, peeling of fruits and vegetables and others.

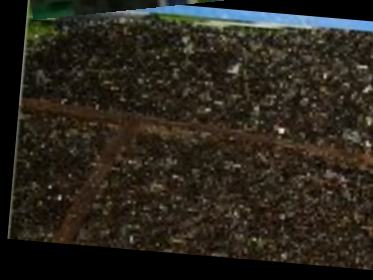
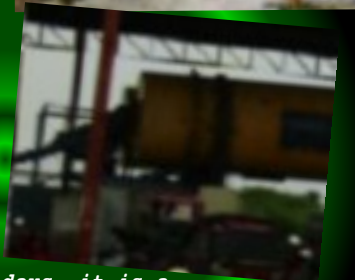
Pre-mixing using Conveyer

It takes 25 days of making the organic fertilizer and in those 25 days, it is a continuous process inside the Bio-Reactor.

They call the organic fertilizer as Golden Ganagan.

The City Government of Vigan has a project in which they will give a sack of organic fertilizer to farmers because they want to promote using organic fertilizer than commercial fertilizer.

The Bio-Reactor is located at Solid Waste Management Center in Sitio Nalasin.



This is a project of the city government that came from the garbages around the city and produce through the use of the boireactor.



Sacks of this golden ganagan is given to every farmer to promote the practical use and benefits that this organic fertilizer can give. This fertilizer is as good as the commercial ones but cheaper in price. Thus, the propagating

The city of Vigan is under the very able leadership of Mayor Eva Marie S. Medina. The awareness on the environment triggers her to ve a project regarding on waste management.



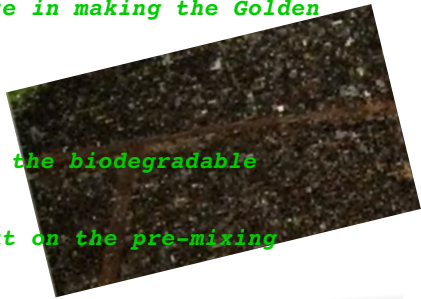
Every morning, the Vigan's dump truck is coming around to collect the garbages around e city. The garbages are dumped in the Solid ste Management Center located at Sitio Nalasin ere the Bioreactor is found.



The garbages are then sort. Among the rbages, some biodegradable materials art oose that can be use in making the Golden nagan.



After sorting, the biodegradable terials are then put on the pre-mixing nveyor.



Then it will take 25 days to make the lden Ganagan inside the Bioreactor.



## VIGAN CITY OFFICIALS



Mayor: *Eva Marie S. Medina*

Vice-mayor: *Francisco P. Sanchez*

Councilors:

*Hon. Loreto A. Quibilan*

*Hon. Everin F. Molina*

*Hon. Benedicto Jose P. Verzosa*

*Hon. Lourdes DG. Baquiran*

*Hon. George J. Villanueva*

*Hon. Andres A. Adriatico*

*Hon. Hermenigildo A. Apelin*

*Hon. Henry A. Formoso*

*Hon. Audie Q. Agdamag*

*Hon. Maximo M. Alves*

PPSK: *Edreen Pajaro*

ABC President: *John Patric Singson*

# PHILIPPINES

# L A R G E S T



# BIOREACTOR

(First ever Bioreactor in the whole Islands of the Philippines.)

Located at the Heritage City of VIGAN! VIVA..