Sampling Technique

- Sampling intervals in biogas plant
  - *Weekly during startup*
  - *Later, fortnightly*
  - *Monthly when the biogas plant shows a stable performance*
- For a standard biogas substrate analysis- approx. 500 mL sample volume is required
- For BMP (Biomethane potential) test
  - *sample needed-500 gms (if solid)*
  - *substate sample needed- 1000 ml (if liquid)*

Sampling Technique…cont

- Sample bottles of PP or PET make (preferably in that order) to be used

- For microbe culture test, Polystyrene (PS) make sample bottles are recommended

- Sample bottle should have a wide opening

- Rinse the substrate containing lines sufficiently before sampling

- Fill the sample bottle completely and closely air-tight it

- Cool down the sample in cold water or ice pack (preferably less than 5 °C to eliminate any gas production

- Mark the sample with a non-water soluble sticker and note the following:
  - *Date of sampling*
  - *Sample origin (pre-F, F , post-F or, storage)*
  - *Fermentation temp. measured at the time the sample is taken*

Note: F- Fermentation

Sampling Technique...cont

- For heterogenous substrates, its recommended to source the sample from several points

- Sample from several collection points, if possible needs to be shredded and mixed well

- Keep collected samples refrigerated (<5 °C) during storage

- Preferably transport the sample within 24 hours from the sample collection

- Transport the samples using freezer pack at (<5 °C) to our lab

- For long-term sample storage and transport (more than one week)
    - *you may freeze the samples using dry-ice/ ice pack (not applicable for sample that needs to undergo microbial analysis or culture test)*

Samples for micro-biological test

- All samples must be shipped
  - cold, and not frozen (use freezer packs)

- Sample should remain upright.

- Samples that are not shipped properly may be rejected by the lab

Address for sending the sample

To,

Mr. S. K. Verma

Reasearch Lab

Near. Department of Chemical Engineering & Technology

Indian Institute of Technology, BHU

Lanka, Varanasi-221005

Uttar Pradesh