



Fig. 9.10. The collection, transportation, preparation, storage, and utilization components must be considered when the feasibility of an anaerobic treatment system is determined.

Advantages and Concerns Associated with Anaerobic Treatment Processes

Advantages

The organic content of the waste is reduced and stabilized so that the final product represents a lesser pollution hazard

The fertilizer constituents of the input material are conserved, the carbon-to-nitrogen ratio is in balance, and the resultant sludge or solids are useful as a soil conditioner and supplemental fertilizer

Combustible gases are produced, which can produce energy for use by the farmer, food processor, or other generator of the organic matter if sufficiently high rates of digestion are maintained

Weed seeds and some pathogens may be inactivated during the process

Rodents and flies are not attracted to the resultant sludge

Potential Concerns

Suitable management is needed for continuous or daily feeding of the anaerobic unit and for proper maintenance and supervision

Temperatures, pH values, and volatile acid concentrations must be maintained within proper boundaries for successful operation

Toxic compounds, such as metals, organics, and oxygen, that may inhibit the anaerobic process must be avoided

A suitable and economic use for the methane and digested residues must be available

The volume of the digested material may be more than that of the raw material if dilution is required for operation of the digester

The digested residues contain high concentrations of organic matter and nutrients and can pollute surface and groundwaters if not handled and utilized properly
