

ABSTRACT OF THE DISCLOSURE

METHODS FOR USING OZONE TO ENHANCE ANAEROBIC DIGESTION

The invention discloses systems and methods for producing a gas stream containing ozone and a "carrier" or sweep gas that has an oxygen concentration that is below a predetermined percentage for treatment of organic waste feed stocks in an anaerobic digester. In one embodiment, ozone and unreacted oxygen from an ozone generator are delivered to a pressure swing adsorption cycle, wherein the ozone is adsorbed onto a sieve and the excess oxygen is removed from the cycle. The sweep gas, which has a limited oxygen concentration, is then used to desorb the ozone from the pressure swing adsorption cycle and deliver the ozone to an anaerobic digester, where the ozone is used to treat the feed stock.

Figure 1