

A Comprehensive Approach to the Use of Farm Animal Manure as an Important Biofuel

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ABSTRACT

The total dried weight of farm animal manure produced annually in the United States is about 250 million tonnes. The equivalent number for the world is about 1,700 million tonnes. The energy content of dry manure ranges from 12 to 18 GJ per tonne (42 GJ per tonne for oil). Thus, the oil energy equivalents are about 90 and 600 million tonnes of oil respectively. This amount of energy is significant in relation to total world oil use of about 3000 million tonnes per year.

The importance of this energy source is recognized in the 1999 U.S. Presidential Executive Order on the “Development and Promoting Biobased Products and Bioenergy”, and the Congressional “Biomass Research and Development Act of 2000”. These actions recognize not only the value of manure as an energy source but also the importance of improving the environmental consequences of farm animal production. This paper discusses key elements of a comprehensive approach to benefiting from the use of farm animal manure.