

## **Non-CO<sub>2</sub> Greenhouse Gases: Methane**

**Source/Sectors:** Agriculture/Enteric Fermentation

**Technology:** Improving animal productivity through the use of growth hormones (A.3.1.3)

### **Description of the Technology:**

Naturally occurring hormones and synthetic compounds have been identified or developed to achieve production-enhancing effects. Use of these hormone compounds reduce methane emissions through improved feed efficiency and reduced time to slaughter. Although the use of growth hormones is currently considered controversial, a large number of compounds such as recombinant bovine somatotropin (rbST), antibiotics and anabolic steroids are currently being used and tested as feed additives for ruminants (de Jager *et al.*, 2001; O'Hara *et al.*, 2003; Bates, 2001).

**Effectiveness:** Bovine somatotropin (BST) growth hormone was observed to decrease methane emissions in dairy herd. BST has been observed to decrease CH<sub>4</sub> emissions by 9% in US dairy herd.

**Implementability:** Applicability is limited in some countries.

**Reliability:** Fair

**Maturity:** Fair

**Environmental Benefits:** Methane emission reduction

**Cost Effectiveness:** None reported.

**Industry Acceptance Level:** Fair

**Limitations:** Not approved to use in Canada due to concerns over hormones in milk and meat products.

### **Sources of the information:**

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7. U.S. Climate Change Technology Program (2005) “Technology Options for the Near and Long Term”, U.S. Department of Energy, <http://www.climatechange.gov/index.htm>, August 2005.
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