1 The Message
Agriculture contributes to greenhouse gas production. In particular, ruminants contribute to methane emissions. Using combinations of oat varieties, we prepared examples of potential feed oats and studied the effect of these oats on gas production. Particular combinations of oat were found to reduce methane emissions by ruminants.

2 Introduction
Oats are a low input crop and Lifecycle analysis has shown them to be more environmentally friendly than other cereals. At IGER we have a diverse range of oat varieties. These include high oil naked oats, conventional husked oats, and low lignin husked oats. By adding different combinations of these we developed potential "ideal" feed oats, and used an in vitro gas production system to determine if there was any effect on gas produced.

3 Methods
Several oat varieties either husked or naked were selected. The husked varieties were dehulled and groats and husk kept separate. Potential feed oats were designed using different groat and husk combinations. These were then tested using the in vitro gas production system.

4 Results

5 Conclusions
- Increased oil content reduced methane production.
- The combination of high oil and low lignin husk reduced methane emissions more than an ordinary husked oat.
- In addition to reducing emissions when given as a feed, oats being a low input crop contribute less greenhouse gases in their production compared with wheat.
- Breeding effort will be concentrated to develop a low lignin husked high oil line for further testing as an animal feed stuff.