



The BUG Consortium: Building Upon the Genome

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Parasitic worms infect all species of farm animal (cattle, sheep, goats and pigs) and need to be treated for the health and welfare of the animal. They cause **significant economic loss** and are a threat to **global food security**. Many of these parasites are roundworms, which are controlled using drugs called **anthelmintics**. Unfortunately many worm species are now **resistant** to these drugs, analogous to antibiotic resistance in bacteria, making control much more difficult. How anthelmintic resistance arises and spreads in worms on UK farms remains unclear.



Photo credit: Andy - Lambs near Malham - April 12 2009

What is the BUG Consortium? BUG stands for **Building Upon the Genome**. The BUG Consortium aims to use the recently published genome of the barber's pole worm (*Haemonchus contortus*) to identify the genetic changes that allow worms to survive drug treatment.



Barber's pole worm (*Haemonchus contortus*)

Photo credit: Dr David Bartley

The major aims of the BUG Consortium are:

- (i)** to develop genetic markers to diagnose anthelmintic resistance at an early stage
- (ii)** to investigate the spread of anthelmintic resistance in UK sheep flocks
- (iii)** to use the genome as a tool for vaccine discovery
- (iv)** to engage with the farming community and develop practical strategies for sustainable sheep production

Our long term goal is to develop a **diagnostic test** for use in assessing management strategies aimed at **controlling the spread of anthelmintic resistance**

Consortium members:



For more information:

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