

**“What Science & Technology can do for UK Agriculture”**  
**The 2013 Public Lecture**  
**Professor Chris Gaskell**  
**Principal of the Royal Agricultural University**

The broad canvas of this topic was ably covered in a most interesting lecture that dealt briefly with the history of British agricultural science and innovation and in more depth on ways in which the future challenges facing the sector may be addressed through the application of scientific method and technological advances.

The lecture touched on the vast difference between the challenges facing agriculture in the West, such as the near 50% post farm gate food waste in the USA and the UK to low crop and livestock yields and post harvest losses in many developing countries.

Professor Gaskell explained that the national framework for the farm sector is currently under-pinned by the UK Government’s 2013 DEFRA paper entitled “The UK Strategy for Agricultural Technologies”. The vision here is for the UK to become a world leader in agricultural technology, innovation and sustainability and to contribute to world food security and international development through the adoption of these new technologies.

Specific examples of new technologies, mainly applicable to developed agriculture, cited in this lecture included the benefits to precision arable farming arising from the adoption of GPS systems used by sophisticated agricultural machinery. He also alluded to the pioneering work at the Rothamsted Research station where there are plans to more than double existing wheat yields of around 8 tonnes per hectare to a barely imaginable 20 tonnes through improving photosynthetic efficiency and remodelling of the wheat genome.

Similarly in livestock genetics the application of scientifically based breeding, feeding and management techniques to milk production at nearby Kemble Farms is resulting in high average yields from their herd of bovine “athletes”. The lecture also highlighted the importance of agricultural education based on science and appropriate technology to achieve sustainability and to ensure that developments in farming are acceptable to the wider public.

*Given on Wednesday 9<sup>th</sup> October 2013 at the Royal Agricultural University*