

## Efficiency in beef finishing systems across the globe

In 2014, Richard Pennock, a farm manager from North Yorkshire, completed a Nuffield Scholarship investigating different farming systems used worldwide to help improve efficiency in the UK beef industry. During this time Richard visited Australia, USA, Canada, Brazil and Uruguay.

Richard found that improving feed efficiency was one of the main targets for beef producers across the globe. Feed efficiency is negatively correlated with body size, with younger, smaller animals able to convert feed more efficiently than older, larger cattle. However traditionally,

beef animals in the UK have an extended store/growing period after weaning which regularly takes place on one or two different farms. Following this, older, heavier cattle enter the finishing stage, usually at a point when feed efficiency is declining.

Finished cattle in the USA are often smaller than those in the UK and many producers take weaned calves straight into the feedlot for finishing, rather than turning them out to grass for a store period. The major economic advantage is that they are harnessing the high feed efficiency of younger cattle which reduces the cost of gain compared to finishing heavier animals. Further benefits include the ability to finish more animals in the same area, so reducing fixed costs per head.

A beef producer in North Nebraska has developed a method of supplying dairy-cross calves into his feedlots by building partnerships with dairies. He has implemented an innovative system of supplying high-quality Limousin semen to dairy herds in California, operating a buy-back contract for the resulting Jersey x Limousin-calves. This way he benefits from the genetic consistency provided by the Jersey bloodlines, guaranteeing a uniform supply of calves which perform consistently in the feedlot.

The Jersey x Limousin-calves destined for the feedlot are taken off their mothers at one to two days of age. They are moved to calf-rearing facilities where they are started on feed at an early age. Calves arrive at the feedlot weighing around 130 – 140kg and are fed on a starter ration for around 90 to 100 days. At this point, calves are sorted by size and the quantity of ration fed per head adjusted as appropriate. After around 150 days in the feedlot, cattle weigh around 320kg and are fed a grower ration which they receive until they reach 380 – 400kg. Cattle are then introduced to the finishing ration which contains maize grain, maize silage, wet distillers, roughage and minerals. Cattle reach weights of around 450kg after approximately 220 days in the feedlot.

Richard argues that the UK beef industry must work to implement a more efficient finishing system in order to maintain profitability in an increasingly challenging market place. To do this Richard says that producers must work to understand and improve the current efficiency of their own systems and implement new strategies which reduce production costs.



A full copy of Richard's report can be found [on the Nuffield website](#)