



Livestock: Research and Innovation **N8 AgriFood**



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The N8 Universities will tackle the challenge of global food security through three interconnected multi-disciplinary research themes:

Theme 1. Sustainable Food Production

Precision agriculture, soil regeneration, resilient and productive crops and livestock, novel diagnostics, predictive modelling, including environmental impact assessment, and 'omics' to promote resilient, sustainable food production.

Theme 2. Resilient Food Supply Chains

Adapting food supply systems to deliver increased resilience and nutrition, while improving public health, reducing environmental impacts and enhancing sustainability.

Theme 3. Improved Nutrition and Consumer Behaviours

Lowering the burden of food production and distribution on the natural environment through changes in behaviour, diet and other socio-economic factors.

The N8 Universities have expertise and capacity in livestock related R & D across the three themes.

Theme 1. Sustainable Food Production

Research into livestock primary production is concentrated at Leeds, Liverpool and Newcastle. The University of Leeds Farm has both indoor and outdoor pig units, addressing pig nutrition and breeding, and capacity for poultry nutrition work.

The University of Liverpool's Farms at Leahurst are part of the Vet School, and focus largely on infectious diseases of ruminants (sheep, dairy and beef cattle) and pigs with additional research programmes on poultry diseases and pig gut physiology.

The University of Newcastle farms include the full range of livestock at Cockle Park, addressing all aspects of livestock management and breeding, and a centre for low input farming systems at Nafferton; both farms address the environmental impact of farming.

Studies of the environmental impacts of livestock agriculture in terms of water quality take place at Lancaster, Leeds and York, while Manchester is developing sensors for soil quality and livestock movements.

Theme 2. Resilient Food Supply Chains

Research into processing, quality assurance and supply of meat products takes place at Liverpool, Leeds and Newcastle; of dairy at Liverpool and Newcastle, and of eggs at Leeds and Liverpool.

Theme 3. Improved Nutrition and Consumer Behaviours

The Universities of Leeds, Liverpool and Newcastle all study the impacts of consumption of meat, dairy and eggs on human health and nutrition, and consumption behaviours related to animal welfare and food choices.

Capabilities at the University Farms

Cattle		*Leeds	Liverpool	Newcastle
	Genetics		Y	
	Breeding		Y	Y
	Nutrition		Y	Y
	Health and Welfare		Y	Y
Pigs				
	Genetics			Y
	Breeding	Y		Y
	Nutrition	Y	Y	Y
	Health and Welfare		Y	Y
Poultry				
	Genetics			Y
	Breeding			Y
	Nutrition	Y		Y
	Health and Welfare		Y	Y
Sheep				
	Breeding		Y	Y
	Nutrition		Y	Y
	Health and Welfare		Y	Y

*Further investment is taking place as part of the Centre for Innovation Excellence in Livestock (CIEL)