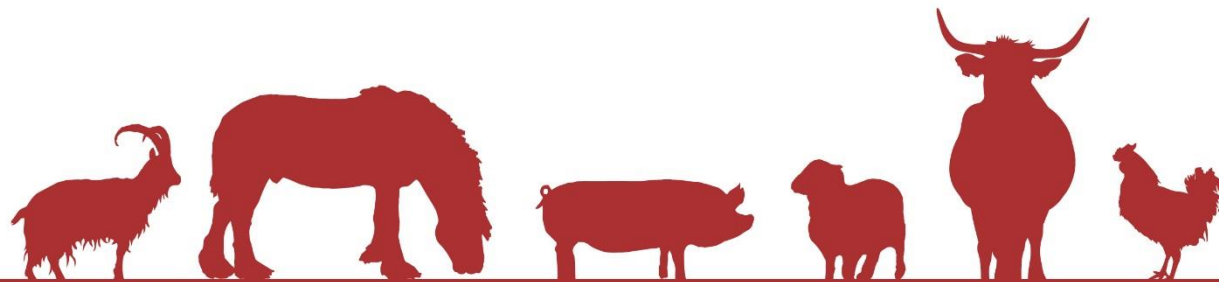




Conservation Breeding and Livestock Genetics: Is the UK achieving its goals?

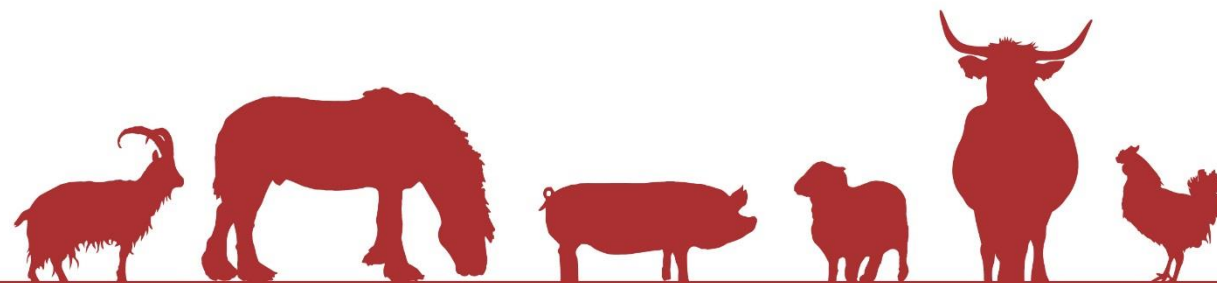
Tom Beeston (Chief Executive Officer, Rare Breeds Survival Trust)





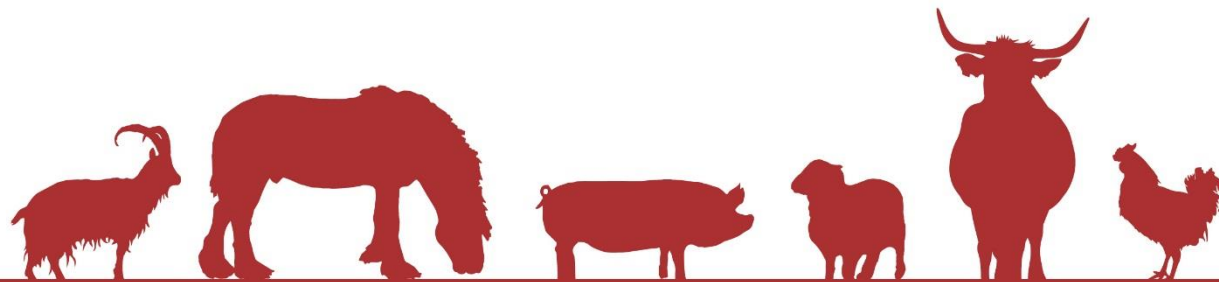
Andrew Sheppy

- A founding father & RBST trustee, helping shape & direct RBST's work
- An advisor to DEFRA through his FAnGR committee membership
- More recent work with RBST focused on poultry
- A passionate Dexter breeder
- An original founders of the Oxford Sandy & Black Pig Society
- Founder & the President of the Rare Poultry Society
- Hebridean and Soay breeder for many years, carrying out important genetic work with these & other sheep breeds in 1970's
- Founder of The Cobthorn Trust with its world-renowned collection of poultry
- Recent winner of the Marsh Christian Trust Award for Conservation Genetic Bio-Diversity



Is the UK achieving its goals?

1. What are the goals: for government, industry or civic society?
 2. Are breed genetics being homogenised?
 3. Measurement is difficult, have we lost genetic livestock traits?
- No UK breeds lost since the 1970s
 - Present trends for rare breeds show a decline of 5% or more by breed
 - Numbers for poultry are anecdotal



Government Goals

- FAO to EU to UK 2010 Diversity indicators
- Measuring population sizes of all our native breeds
- No targets for measurement of genetic diversity within a breed
- Average effective population size of “native breeds at risk” included in this indicator:
 - Pigs 177 in 2000 to 230 in 2011, but 145 in 2016;
 - Horses 179 in 2000 to 169 in 2011 and to 116 in 2016;
 - Sheep 228 in 2000 to 359 in 2011 and little changed at 356 in 2016;
 - Cattle 91 in 2000 to 196 in 2011 and to 308 in 2016;
 - Goats 2004 63, to 73 in 2011 and to 89 in 2016.

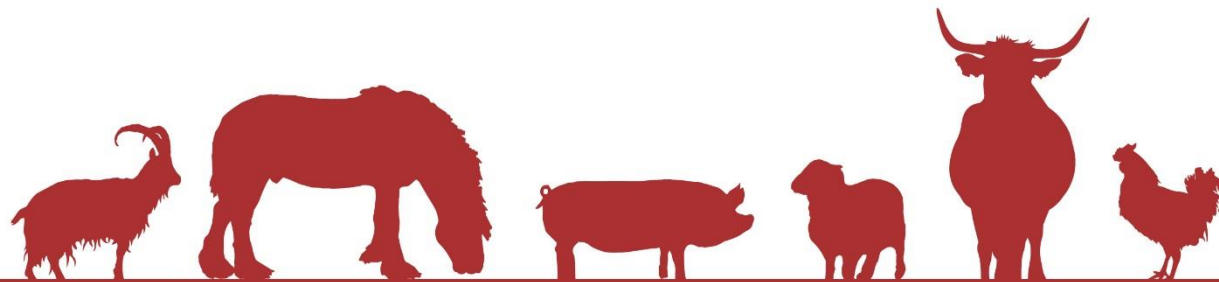




Civic Society Goals

- RBST is the main overarching body in the UK
- RBST works presently with Nottingham, Roslin and other Universities
- Wildlife Trusts, Plantlife, National Trust & Farm Parks
- The Livestock Conservancy in the USA

- RBST Watchlist
- Breed Analysis: Grassroots, Geneped and beyond

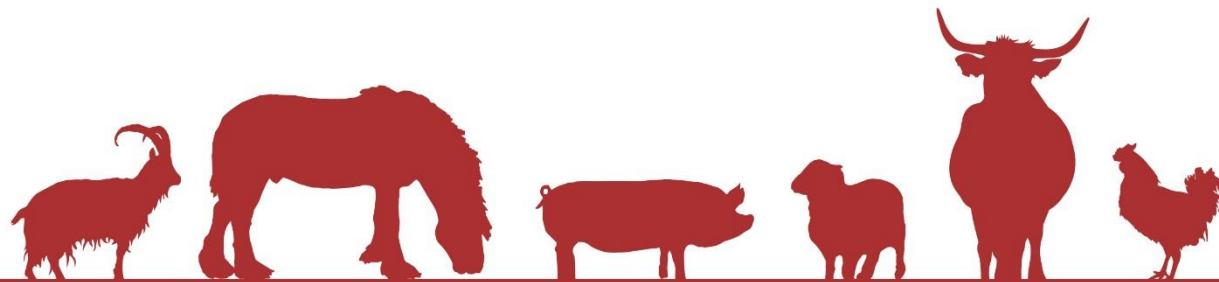




Industry Goals?

“Over the next 50 years, the world’s farmers and ranchers will be called upon to produce more food than has been produced in the past 10,000 years combined, and to do so in environmentally sustainable ways.”

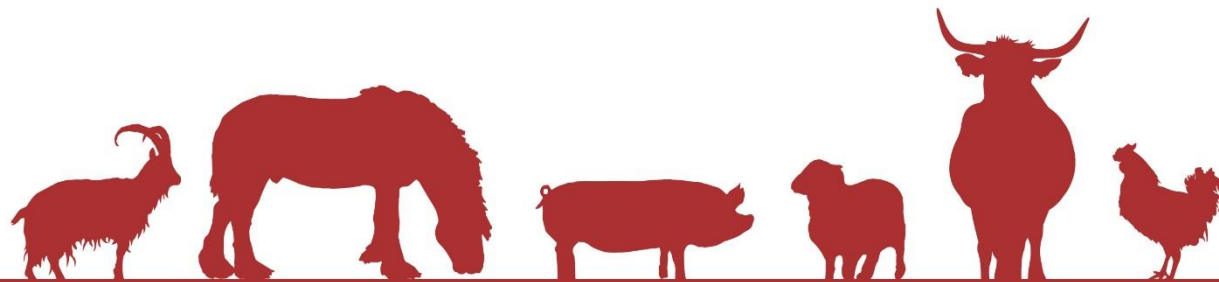
Jacques Diouf, FAO Director General, 2007





Breed homogenisation?

- Dexter Cattle numbers are holding steady 2,000+ registrations each year
- Demand for smaller, tastier grass fed beef & conservation grazing
- Are all genetics within a breed the same:
 - Cobthorn Herd of (Traditional) Dexters
 - Present a handful with original genetics

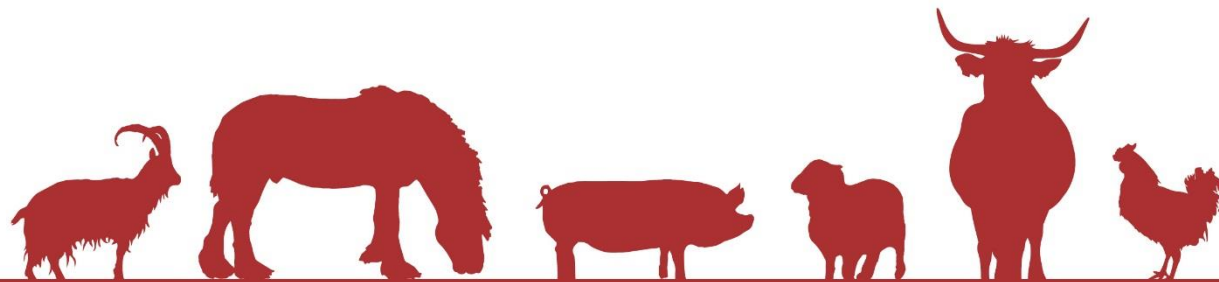




Measurement going forward

My predictions

- Genomics / Molecular genetics - a game changer
- Effective populations (Watchlist/NBAR) - are here to stay
- A significantly more sophisticated analysis for breeding programmes
- Our Gene Bank will soon be a commercial genetic repository
- Gene banking & breed re-establishment will be unrecognisable in 10 years





Conservation Breeding and Livestock Genetics: Is the UK achieving its goals?

We need to review our goals

Work across industry, civic society & government to do more

Embrace science & support our breeders

Increase demand



