Situation critical for rare and native breeds

When the Rare Breeds Survival Trust – RBST – published its 2016 Watchlist, it did so with the warning that the status of many of the UK’s rare breeds is critical. RBST stated that, although the UK has not lost a single breed of native livestock since the charity’s formation in 1973, the situation for our rare breeds continues to be a cause of major concern.

The ball that led to the creation of RBST was set rolling in the 1950s when Sir – later to become Lord – Zuckerman, in his role as Honorary Secretary of the Zoological Society of London (ZSL), had established what he called his ‘Gene Bank’ at Whipsnade Zoo. Lord Zuckerman, a public servant, zoologist and scientific adviser to the government, alarmed by the rate at which native livestock breeds were disappearing, coined this phrase for a collection of rare native breeds that he had housed at the zoo. These were breeds that he realised were on the edge of extinction and his concern was that the vast spread of genetic variation available to the livestock breeders of the past would no longer be there for their successors in the future because of changing fashions in livestock production.

Later, in the 1960s, the ZSL began to question whether the gene bank may not have been more the concern of the agricultural and scientific community than that of a zoological park. The Society initiated a meeting with the Royal Agricultural Society of England to create a wider interest in the gene bank’ which launched the train of events that led to the establishment of RBST in 1973.

RBST exists today to ensure the survival of rare and native UK breeds of farm livestock and it has defined three key tasks: to monitor breed numbers and potential threats, to save both living animals and breed genetics and to promote the breeding, registration and use of rare and native breeds.

The Trust monitors breeds by assessing numbers of registered breeding females, publishing the results in its annual Watchlist which categorises the degree of threat to each breed’s survival. In its 2016 Watchlist, RBST reported that populations of native sheep are stable, but that the number of breeds categorised as rare is growing. There are thought to be more sheep breeds in the UK than in any other country in the world. Of those, some 56 breeds are native to this country – and worryingly, 24 of those are listed in Watchlist categories which list their status as ranging from ‘minority’ (with between 1,500 and 3,000 registered breeding females) to ‘endangered’ (300 to 500 registered breeding females).

In considering why this situation should be of concern, we can look back to Lord Zuckerman’s worries over the loss of genetic variation. RBST CEO Tom Beeston explains: “With certain breeds of sheep we have major concerns over falling numbers of registrations, but what is potentially an even greater long-term threat is the growing lack of genetic diversity. Genetic variation in livestock populations is necessary for adaptation to future changes in climate, consumer demand and for the continued improvement of economically important traits. Unfortunately, the current trend is for reduced genetic variation.”

While the main goal for RBST is to see vigorous breeding programmes that put more registered pure-bred animals on the ground, an important resource is today’s Gene Bank. While Lord Zuckerman’s version consisted of living animals, the modern Gene Bank is a store of genetic materials, in the form of semen and embryos, which provides RBST with its insurance policy for the future which can be brought into play to

Hatton Lucky Dip, a Leicester Longwool owned by RBST and part of the flock at the National Trust’s Wimpole Home Farm.
re-create a breed should it become extinct.

The Gene Bank target is to have genetics from a minimum of 25 unrelated animals of each breed, as Tom Beeston explains: “Most breeds are represented in the Gene Bank, but it is vital that we are able to collect from at least 25 unrelated rams from each breed, because if a population were to crash and all sires were lost, with these numbers it would be possible to re-establish approximately 90% of the original genetics. For sheep, we have a good foundation in store to work from, but there are still breeds which are either not represented at all or are represented by very low numbers of individual rams. If a disease epidemic or other situation beyond our control were to deplete the current populations of these breeds, there would be no way to save them from extinction.”

Funding this work is, of course, a key issue and a major challenge for RBST, particularly when viewed in the context of the need to build similar stocks for native cattle, pigs, goats and equines. It currently costs RBST around £650 to collect and store semen from one ram and in 2015, the charity’s focus was on fundraising for the native sheep Gene Bank, as no collections had been made since 2011. Response from RBST membership to the appeal was overwhelmingly generous and achieved funding for collections from North Ronaldsay, Boreray, Soay, Devon Closewool, Norfolk Horn, Leicester Longwool and Whitefaced Woodland rams. The Bank also benefited from private donations of straws from Southdowns, Wensleydales and Devon Closewools. Tom Beeston: “We are always happy to talk to breeders who may be willing to make semen donations for any breed on the Watchlist, including those in Category 6 (Other Native Breeds) as although those breeds are numerically more secure, breeds in that category aren’t automatically guaranteed their safety.”

While RBST does not generally seek to purchase and own livestock, in exceptional circumstances it does buy animals based on their genetic merit or geographical importance. Normally, these animals are then put on loan to farmers who care for them in return for the opportunity to retain ownership of any offspring born. The Trust currently owns four groups of sheep – Leicester Longwools, Boreray, Norfolk Horns and Whitefaced Woodlands. Many of these are homed at RBST Approved Conservation Farm Parks, where breeding programmes are carried out. Last year, a group of RBST Boreray ewes and a ram that had been resident at Croxteth Home Farm in Liverpool since January 2013 made the journey south
This aspect of RBST’s work has also received important boosts from the activities of some of its Support Groups, regional groups of the RBST membership which, by voluntary activities, make significant contributions to raising awareness of the charity and raising funds. One example is the East Anglia Support Group which set up the Marlingford flock of Norfolk Horns in 2008. The Group raised funds to purchase six shearling ewes and a ram which were homed at Easton College in Norfolk. Another Support Group, Lancashire, has also recently embarked on a Norfolk Horn initiative. The ReBorn project aims to produce fertilised embryos using particular ewes and semen, transplanting some into recipient sheep and freezing the rest for long-term storage.

Along with monitoring and saving breeds comes promotion. It is not, nor ever has been, the purpose of RBST to create a living museum of heritage breeds and the third of its key tasks is to promote not only breeding and registration, but also the use of rare and native breeds for food, fibre and conservation grazing. Preserving them as part of our cultural heritage plays an important part. Our wonderfully diverse landscape was, in part, sculpted by the animals that graze it.

Along with monitoring and saving breeds comes promotion. Tom Beeston explains: “This is exactly how we want our loan stock to work. The offspring of the ewes we own have been used to found the basis of a solid pedigree flock which now belongs to Croxteth and hopefully they will do the same thing again at Sandwell.”

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The Lincoln Longwool, a breed in Category 5 – At Risk – on the RBST Watchlist 2016 and in danger of falling into the Vulnerable category.
flower meadows. Our ancient meadows were traditionally managed to provide feed to carry livestock over long winters. Over generations, the livestock evolved traits that suited the different climates, topography, minerals and flora found in our varied landscapes which developed further with selective breeding into the breeds we see today. The meadows shaped the animals, just as much as the animals shaped the meadows.

Conservation grazing to preserve landscape is an important role for many rare breeds and brings a number of benefits. The landscape benefits, as does the wildlife it is home to, and the natural grazing contributes to the flavour and quality of meat produced.

One of RBST’s Watchlist successes came in 2013 when a resurgence in fortunes saw the move of Shropshire sheep into the relatively safe category 6. One of the reasons cited for the growth in interest in the breed is its unique ability to graze safely among tree plantations, which has seen them becoming very popular with Christmas tree growers both in this country and across Europe. This attribute has also made them increasingly popular with fruit tree growers. With high fuel costs and restrictions on pesticides, growers are becoming more interested in alternative methods of weed control, herbage and, in some instances, plant disease control, all of which Shropshire can help with.

Summing up why the work of RBST is so relevant today, Tom Beeston says: “We have to reverse the trend of reduced genetic diversity across all of our livestock species. Genetic resistance is increasingly important for the control of animal diseases and, by saving our native breeds, we can hope to face as yet unknown challenges in the form of disease resistance, climate adaptation, food security and resilience. While the founders of RBST recognised the importance of ensuring that the genetics of our native breeds were preserved, they may not have realised just how much more significant that could be for future generations of food producers. Issues such as climate change, the impact of rising incomes in the developing world and a surging demand for animal products had yet to be raised. Meeting rising demand for animal protein is now a major sustainability challenge and we need to have every tool available to meet it. This includes having as large and diverse a livestock gene pool as possible.”

For more information about RBST and its work, visit www.rbst.org.uk