

WATERFOWL

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The Greylag goose, foundation species for Europe's native goose breeds



Breeds at risk ...should they be preserved?

Once upon a time there were no 'breeds' of waterfowl. Wild ducks were harvested from traps in the marshlands and Greylag goose eggs were collected, or the geese rounded up in their flightless period. Close contact with the birds – especially the Greylag goslings – led to their domestication and the development of regional types of waterfowl. These eventually became known as 'breeds'.

DEVELOPMENT FROM THE LANDRACE

In Indonesia, the distinctive Runner foraged in the rice fields; in France, the Rouen grew fat on its diet of worms and grain. Development of the Embden and Toulouse suited the better feeding of the lowlands, whilst the Shetland goose pecked a living off the poorer land. In central Europe, white geese and curly-feathered geese were selected, and there also arose the saddleback and auto-sexing types. These forms of geese were chosen from mutations noticed in the domesticated breeding flock.

The goose kept by the local people therefore depended upon the chosen characteristics,

and upon the effect of the local environment. Selection was not based on any knowledge of genetics, but upon cultural preference and tradition. Thus white goose down for the duvet was preferred in northern Europe; yet a white gander and a grey goose, for ease of auto-sexing, was also a general maxim in the west.

These geese and ducks of the land evolved to fit the local conditions, establishing the concept of the 'landrace' in Europe. It is literally the bird 'of the land' i.e. typical of a certain district. It is the form/strain best adapted to the local conditions of climate, management practices and food supply. A wide gene pool and inevitable cross-breeding maintained productivity where these breeding populations were extensive.

A 'breed' is further refinement from the landrace. It is a group of domesticated birds where the individuals are similar to each other in outward appearance and in their breeding performance. When bred together, the progeny should be similar to each other i.e. the parents (and their offspring) should 'breed true'.

Selection within a landrace for the consistent appearance of a breed narrows the gene pool

of the original landrace and the characteristic productivity of the landrace can be lost if the population is too small.

THE IMPORTANCE OF NATIVE BREEDS

Domesticated forms could, in theory, be re-created from the wild population. However, some of our breeds have evolved over many centuries and both time and even serendipity have also played their part – something that cannot be guaranteed to happen again.

The importance of these indigenous (native) breeds was recognized by the UN's Food and Agriculture Organisation (FAO). *Livestock Breeds of China* focusing only on mammals, was originally published in Chinese in 1980. It noted that indigenous breeds are often low in productivity, but are well adapted to stresses in environmental conditions that exotic strains cannot cope with, such as local climate, food supply and diseases. Desirable traits in these native breeds are needed to maximise productivity in new strains created from exotic breeds, especially in harsh environments.

This large number of different breeds (in relatively few species) has given us the



Abacot Rangers; produced in Britain, developed in Germany as the Streicher.



Pilgrim geese, first standardised in the USA, originated in Europe.

opportunity to continue the process of exploiting genetic variation at a faster pace than in the past. However, these breeds and their valuable genetic material may well be lost if we do not take specific measures to preserve them now. They should be preserved to save them from extinction, and be developed to utilize their potential to the full.

Subsequent reports from China (2003) and the USSR (1989) went on to define several breeds and breed groups in waterfowl.

In 1990, FAO's Council recommended the preparation of a comprehensive programme for the sustainable management of AnGR at the global level. This resulted in individual Country Reports which were the formative documents in this process. The UK *Country Report on Farm Animal Genetic Resources* was published in 2002. By 2007, the first ever FAO *Global Plan of Action for Animal Genetic Resources*, aimed at combating the erosion of animal genetic diversity, and at using animal genetic resources sustainably, was finally published. Its aims were also to contribute to development goals such as the eradication of extreme poverty and hunger and to ensure environmental sustainability.

Defra now acknowledges that the UK's Farm Animal Genetic Resources (FAnGR) – its farm animal breeds, strains and varieties, and the variability within them – are of great economic, social and cultural importance. Additionally, we have national and international obligations to look after them.

AVIAN INFLUENZA

What really shot the avian native and rare breeds issue into the public domain was the incidence of avian influenza in the UK, particularly 2006 - 2008. Defra's policy to cull all infected and even potentially infected flocks meant a rapid re-assessment of the UK stock to determine breeds at risk (BAR), in compliance with the FAO AnGR aims.

The Rare Breeds Survival Trust had only previously included a few rare chicken breeds



Exhibition/Aylesbury

PHOTO: JONATHAN MORGAN

in its native breed poultry list, and it was now up to all poultry organisations to produce a list of native breeds, from the UK standards, which could merit special consideration for Defra's BAR list. This was doubly important for waterfowl because of the near impossible task of housing waterfowl in the event of a crisis: they simply cannot be confined, and excluded from wild birds, as easily as chickens.

Meetings with Defra confirmed the criteria. BAR should:

1. Be a native domestic breed predominantly or significantly domiciled in the UK;
2. Have less than 1000 pure bred females in the UK;
3. Have bred true for a significant number of generations (50 years);
4. Be recognised by a governing body and accepted as a standardized breed.

Defra initially included the auto-sexing breeds (West of England and Pilgrim) plus Sebastopol, Embden (UK Standard), and Brecon Buff. Further discussions have added the Grey Back, Buff Back, exhibition Toulouse and Shetland goose (standardised 2008). The initial list of ducks was also recently expanded.

A DEFINITION OF NATIVE BREEDS

Quite often it has been from the landrace that a breed has been developed and refined for the Standards book (e.g. the Brecon Buff). Such developments are known as native breeds –

i.e. they have a particular place of origin.

There are guidelines on the definition of a native breed based on the larger animals. These include the following RBST (simplified points) for the UK:

1. The breed must comply with the FAO and EU definitions of a breed;
2. Breed history documents the breed origin and development within the UK;
3. Breed history documents its presence in the UK for 40 years plus six generations;
4. Not more than 20% of the genetic contributions come from animals born outside the UK (other than those imported for an approved conservation project) in any generation for the last 40 years plus six generations (<https://www.rbst.org.uk/poultry-information>).

Some of these native breeds came about from improvement in breeding stock during the agricultural revolution. Changes in land use and productivity, and redistribution of the human population, altered both products and markets. Commercialisation for the urban market refined the processes whereby a group of animals was developed as a uniform, mass-produced, profitable product. That is well documented in the case of the Aylesbury duck.

Today, these native breeds may no longer be used as commercial birds, nor be as genetically diverse as the original landrace. They may be rare because they have been neglected commercially. This is true of both the genuine Aylesbury duck and the Brecon Buff goose. In addition, some of our native breeds have only recently been recognised in the Standards book. The West of England and Shetland goose are examples of native breeds which fell out of favour when they competed with the twentieth century commercial white goose.

Publicity of the plight, and the significance of, breeds at risk, is currently causing a revival of interest. Many of the BAR have been nurtured in small numbers in their local environment, and also by breeders for the show scene. Without these conservation efforts many of these breeds would have disappeared entirely. Maybe it's time for some of them to make a comeback.