Breeds of pigs—Landrace

Graeme Taylor and Greg Roese
Livestock Officers Pigs
Intensive Livestock Development, Tamworth

Susanne Hermesch
Pig Genetics Coordinator
Animal Genetics and Breeding Unit, UNE, Armidale.

This Primefact provides a brief history of the Landrace breed and its use in the Australian pork industry.

Origin and history

The Landrace breed was developed in Denmark by crossing the native pig with the Large White. This cross was then improved on during years of testing and breeding under strict government control. The Danes refused to export live pigs until World War II, when the best specimens of the breed were exported to Sweden. The progeny from these pigs eventually reached England and Ireland.

The English first imported Landrace from Denmark in 1949. In 1953, further imports of registered breeding stock were made and the breed society was formed. This society amalgamated with the National Pig Breeders’ Association in 1978. The Danes had concentrated on producing a pig that suited the British bacon trade, which preferred the ‘Wiltsire’ type side of bacon. The Landrace was also bred to be adaptable to the intensive-housing system of production.

In 1958, Landrace were imported into Australia from Northern Ireland. A total of fifteen mated sows and five boars arrived before imports of live pigs were stopped. These Landrace pigs formed the foundation stock of the Australian Landrace. Treacy (1976) states that 144 registered Landrace pigs were imported into Australia from 1959 until 1973. Most of these pigs came from New Zealand (80%) and the remainder were imported from the United Kingdom.

At the Melbourne Royal Show in 1959 a Landrace sow was sold for 3,750 guineas ($7,875). This price remains a record for the amount paid for any Australian breed of pig. Since 1973 there have been many introductions of Landrace from New Zealand, Britain and Canada, and the breed is now the second most popular in Australia, the most popular being the Large White.

Breed characteristics

Landrace have white skin and are free from black hair. They are a lop-eared pig with a long middle, light forequarters, and excellent ham development. The major faults with the original Landrace were leg weakness, splay legs and nervous disorders such as porcine stress syndrome (PSS). PSS still occurs in some strains.
**Uses and performance**

With the advent of the intensive housing system in Australia the Landrace became very popular in cross-breeding programs with the Large White breed. First and subsequent crosses were ideally suited to intensive pig production. Today, the majority of crossbreds contain Landrace and Large White blood.

The Landrace breed improved carcase quality in the early years of its introduction into Australia, mainly because of the large size of their eye muscle. Carcase competitions in the late 1960s were regularly won by Landrace pigs. In addition, the Landrace was noted for its early, rapid growth, and its weight at weaning was higher than that of other breeds. Usually it was not as prolific a breeder as the Large White and tended to be slightly fatter.

In a study by Bunter and Bennett (2004, AGBU Pig Genetics Workshop Notes), progeny from a number of breeds and terminal sire lines were raised under the same conditions. The progeny were compared for growth, backfat, meat and eating quality traits. There were differences between breeds for some traits; however, there were also large differences between progeny groups of sires within a breed. This demonstrates that breeders and producers must consider between-breed differences and differences between animals within a breed.

**Genetic improvement**

Modern breeders use computer programs like PIGBLUP for genetic improvement of pork production. Selection decisions are based on estimated breeding values (EBVs), which are an estimate of the genetic merit of pigs. EBVs are derived from pedigree and performance data available from herd recording systems for a number of performance and reproductive traits. The genetic gain that has been achieved in a population of pigs is demonstrated through genetic trends, which show the average EBV of all animals born in the same year.

The Landrace breed is part of the National Pig Improvement Program. The NPIP provides across-herd EBVs, and genetic trends for Landrace are presented in the following graphs for average daily gain, backfat depth and litter size. These genetic trends are the average genetic trend of all participating herds. Genetic trends of individual seedstock providers may differ from these average genetic trends due to different selection emphasis placed on each trait by individual breeders.
References


Further information
Suggested sources of information include:
- NSW Department of Primary Industries: www.dpi.nsw.gov.au
- Pig genetics at AGBU: http://agbu.une.edu.au/pigs/pigblup
- National Pig Improvement Program: http://npip.une.edu.au

- Breeds of pigs—Large White (NSW DPI Primefact 62)
- Breeds of pigs—Duroc (NSW DPI Primefact 64)

© State of New South Wales 2005

ISSN 1832-6668
JOB NUMBER 6148
Updates of this Primefact are available at www.dpi.nsw.gov.au/primefacts

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (November 2005). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of New South Wales Department of Primary Industries or the user’s independent adviser.