



associazione nazionale allevatori suini

National Pig Breeders Association,

recognized since 1963.

Mission:

Improvement, conservation, enhancement and diffusion of Italian
breeding pigs.

Special concerns

genetic improvement programs of the three breeds for Italian heavy
pig production

conservation of the Italian autochthonous breeds.

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ANAS AND PDO-PGI CHAINS

The Italian pig industry is mainly focused on the production of high-quality Protected Designation of Origin (PDO) products such as Parma and San Daniele dry-cured hams. These products are obtained from heavy pigs (about 170 Kg l.w. at slaughtering) with U-R-O classified carcasses.

Hams are cured and dried under a pre- defined temperature and humidity program for longer than 12 months.

No additives are used and the final quality of hams only depends on the quality of raw legs.

The main goal of the breeding programs for the three breeds is to maintain the attitude of pig meat to seasoning, while improving production efficiency, so continuing to supply the producers of high quality, Italian traditional products with suitable meat. In general terms, meat attitude to seasoning is scarcely compatible with increases in carcass meatiness and leanness.

Italian Large White, Landrace and Duroc breeds are the reference breeds for the main Protected Denomination of Origin (PDO) and Protected Geographical Indication (PGI) pig meat processed products

Italian breeding goals include meat quality traits for seasoning, carcass traits, growth, as well as prolificacy and longevity in Italian Large White and Italian Landrace breeds.

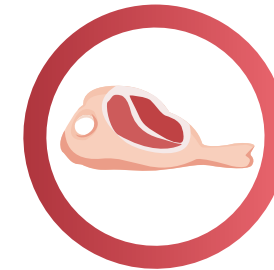
Traits considered in selection are weight losses of hams during first salting (CALO), visible inter-muscular fat in hams (VIF), backfat thickness (BFT), weight of loins at slaughtering (LC), average daily gain (ADG), total number of piglets born alive at first farrowing (NBA), number of parities in each sow career.

Since 2022 two new traits have been taken in consideration: resistance to respiratory disease (RMR) and resistance to enteric disease (RME).servation program of the breed. The key issue is the development of methods that can truly authenticate mono-breed products.

LEAN MEAT %



— **WEIGHT LOSSES**
during seasoning



— **DEHYDRATION**



— **SALT** in dried ham



THE ITALIAN BREEDING PROGRAM PROVIDES FOR BETTER SEASONING



THE “HAM” BREEDS

The first Large White pure breeding animals were imported in Italy in 1872, Landrace pure breeding animals were introduced in the sixties, while Duroc in the seventies of last Century.

Since 1987 the specific breeding goals for high quality meat production have shaped distinct Italian Large White,

Landrace and Duroc populations. A “white” variant of the Italian Duroc was established in 2007 by an introgression program of white coat genes from the Italian Large White.



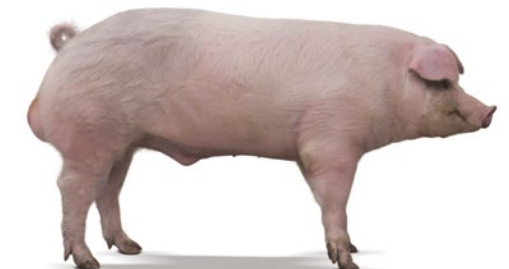
ITALIAN LARGE WHITE



ITALIAN LANDRACE

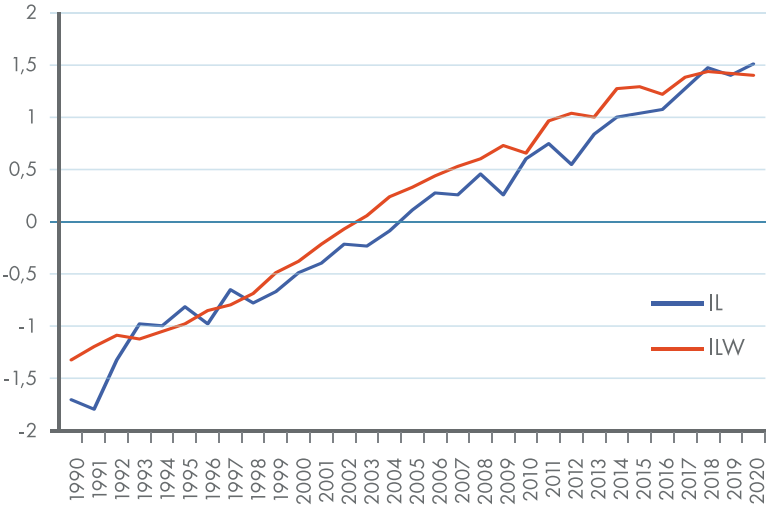


ITALIAN DUROC



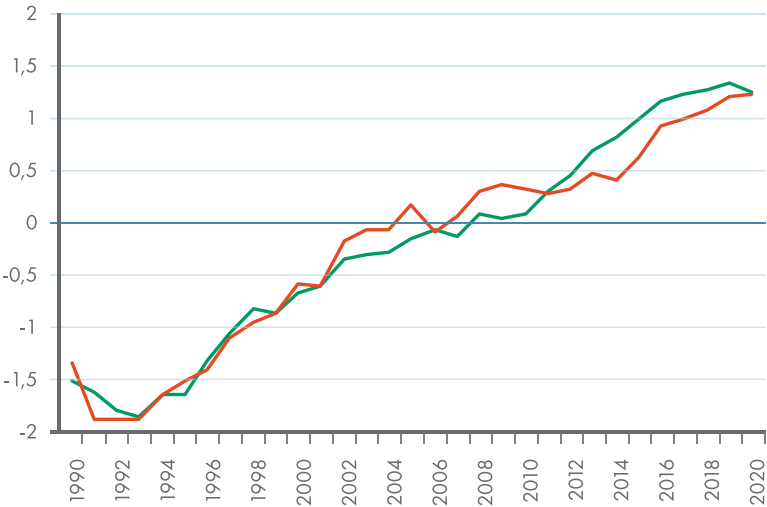
TREND SELECTION INDEX

Italian Large White and Landrace 1990-2020



TREND SELECTION AND EFFICIENCY INDEXES

Italian Duroc 1990-2020



GENETIC PROGRESS IN ITALIAN HEAVY PIG

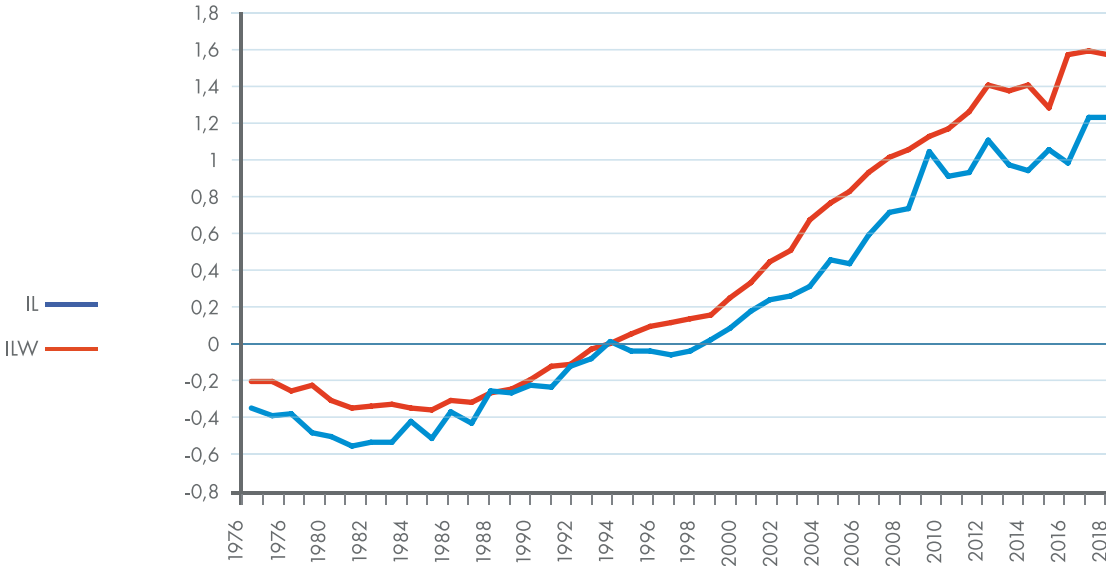
Decades of focused breeding work on Italian Large White, Landrace e Duroc breeds have defined a unique genetics with superior suitability to meat seasoning. Pigs are robust and they contribute to the productivity of the entire value chain from the farm.

Italian Large White and Landrace are used as dam lines and they are also improved for reproductive traits: prolificacy, maternal capacity, and longevity.

Italian Duroc is the sire line for producing crossbred heavy pig: ID x (ILW x IL)

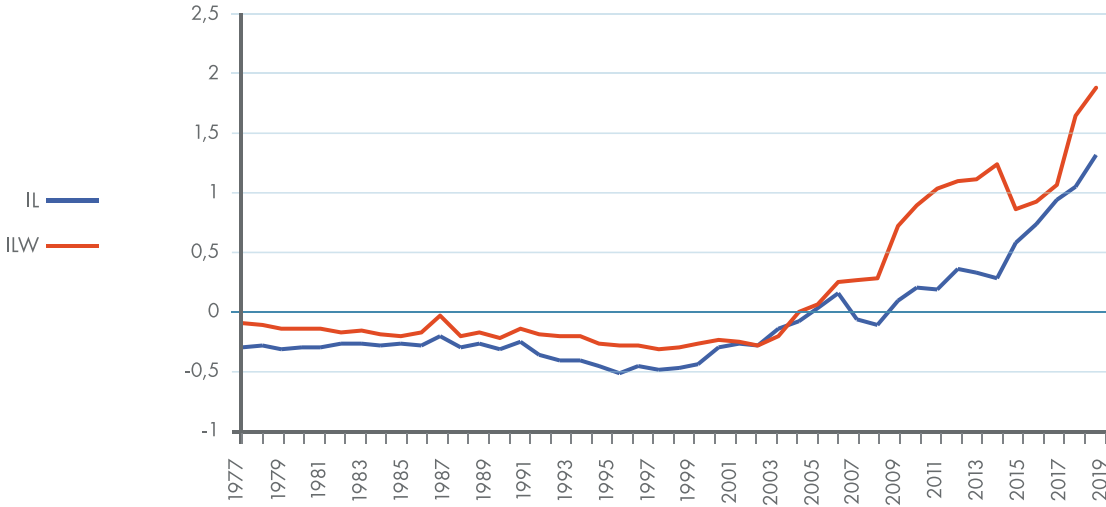
TREND GENOMIC LONGEVITY INDEX

Italian Large White and Landrace 1976-2019



TREND GENOMIC PROLIFICACY INDEX

Italian Large White and Landrace 1977-2020



ANAS AND BIODIVERSITY

The particular and unusual geographical conformation of Italy helped to preserve biodiversity among autochthonous breeds-

In 1996 ANAS began to implement conservation programs to preserve six autochthonous breeds: Apulo-Calabrese, Casertana, Cinta Senese, Mora Romagnola, Nero Siciliano and Sarda.

Autochthonous pig breed products are quite important for niche markets, initially driven by local consumption and agritourism activities, but more recently raising the interest of larger retailers. Cinta Senese meat obtained in 2012 the Protected Denomination of Origin (PDO) label.

A sustainable strategy for the conservation of animal genetic is based on the marketing of "mono-breed" products, properly labelled with their breed of origin. These products are usually sold at premium, since consumers positively consider the link with the autochthonous breed of origin.

For a mono-breed production chain to be sustainable, it is necessary to defend the integrity of its business model and the conservation program of the breed. The key issue is the development of methods that can truly authenticate mono-breed products.

The main aim of conservation programs is the maintenance of genetic variability by controlling inbreeding in the populations. ANAS activity is focused on the verification of each breed standards, the correct animal identification, the reliable registration of pedigree information. Pedigree information allow for the estimation of inbreeding of each pig entered in the Herd Book, and to manage the mating schemes.

Some breeds might not be completely fixed for all traits. ANAS constantly improves characterizations in order to maintain the distinctiveness of each breeds both at a phenotypic and a genetic level. Where available, DNA markers are used (i.e. coat color genes, vertebrae number gene)



THE ITALIAN AUTHOCTONOUS BREEDS

Cinta Senese

small-medium sized pigs with black coat color and a continuous white belt which include front limbs and trunk at shoulder level. This breed is widespread throughout Tuscany and in Center Italy. The first evidence of the presence of belted animals dates back to 1340.

Mora romagnola

small-medium sized pigs, with a coat reddish-brown until six months of age, and later black with lighter reddish abdomen. A dark skin that along the lumbar region host black bristles forming a sort of mane ("Linea Sparta") is the other characteristic trait of the breed. The breed is mainly present Emilia Romagna region.

Casertana

small sized pigs with light bones and grey skin. The breed is characterized by the absence of hairs (total or partial) and it could present wattles. The breeding is traditionally linked to the Campania region, where the presence of glabrous pigs,

similar to Asian pigs, is already documented as earlier as in Roman times.

Apulo Calabrese

medium sized pigs, with black skin and black hairs particularly, on the back line. This breed has spread with transhumance along all the peninsula and today has the widest geographical spread from Central to South Italy.

Nero siciliano

it dates back to the Carthaginian period and nowadays it can be found mainly on the Nebrodi Mountains in Sicily. Black coat colored, with black skin and black hair.

Sarda

small sized pigs, their coats may present different colors. Distinctive trait of the breed is the "coda cavallina" (tail similar to an horse tail) and a tuft on their rump.

each authocthonous
breed is also
known by a number
of alternative,
local names



CINTA SENESE



MORA ROMAGNOLA



CASERTANA



APULO CALABRESE



NERO SICILIANO



SARDA

GEOGRAPHICAL DISTRIBUTION OF AUTHOCHTHONOUS BREEDS

- 1 Mora romagnola
- 2 Cinta senese
- 3 Sarda
- 4 Casertana
- 5 Apulo Calabrese
- 6 Nero siciliano



OTHER BREEDS

ANAS manages the breeding programs of two reconstructed breeds named Nero di Parma and Nero Lomellina. The common goal of the programs is to fix the phenotypic characteristics of the two reconstructed breeds.

The animals of these populations have been obtained by several crosses aimed to recreate phenotypes of long extinct breeds.

Nero di Parma

are black coated, medium large sized pigs. The breed can be found in North Italy, in Parma province. It has been obtained by crossing autochthonous breeds (Cinta Senese, Mora Romagnola, Casertana) and Large Black animals.

Nero di Lomellina

pigs have a black coat with a white frontal list and white-footed legs. The breed can be also found in North Italy, in the province of Pavia and in Piedmont region.



NERO DI LOMELLINA

NERO DI PARMA



Ham pictures by
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