



Breeding Programme of the South of Ireland Branch Suffolk Sheep Society Limited

Approved on 27th August 2021

Table of Contents

	Page No
1. Name	3
2. Aim of the Society	3
3. Geographical territory	3
4. Breed characteristics	3
5. Division of the breeding book	4
6. System for the identification of animals	5
7. Procedure for identifying animals in the breeding book	5
8. Control checks for recording pedigree of the breeding animal	6
9. Information on the system for recording pedigrees of	

pure bred breeding animals

7

10. Selection and Breeding Objectives 7

11. Performance testing and genetic evaluations 8

12. Technical activities outsourced 12

13. Zootechnical certificate 12

Appendix 1

14

The South of Ireland Branch Suffolk Sheep Society Limited, here after known as the “Society”, shall maintain a register of the particulars of the pedigree, status and performance of eligible Suffolk pedigree sheep here after known as the “Animals”.

1. Name

The name of the breed is the Suffolk Sheep.

2. Aim of the Society

The aim of the Society is to preserve and improve the Suffolk Sheep breed by adhering to a strict breeding programme which maintains the breed characteristics and using all available technology to improve the breed and thereby improving the efficiency and profitability of the Irish sheep industry.

3. Geographical territory

The geographical territory being the Republic of Ireland for the Society to conduct its breeding programme.

4. Breed Characteristics:

The Suffolk breed is a hornless lowland terminal sire breed showing both excellent meat qualities and good maternal ability. Its distinguishing qualities are:

- Ease of lambing and fertility, which give it an excellent ability for ewes to produce weaned lambs.
- Excellent growth rates which produce market ready lambs typically at 12 weeks

The aesthetic characteristics of the Suffolk breed are:

- **Head** Hornless; Face black & long; Muzzle moderately fine in ewes. (A small quantity of clean white wool on the forehead not objected to.) Ears, a medium length, black and fine texture. Eyes, bright and full
- **Neck** Moderate length and well set. (In rams, stronger, with a good crest)
- **Shoulder** Broad and oblique
- **Chest** Deep and wide
- **Back and Loin** Long, level and well covered with meat and muscle; Tail well set up, the ribs long and well sprung with a full flank
- **Legs and feet** Straight and black, with flat bones of good quality, woolled to the knees and hocks, clean below. Forelegs set well apart. Hind legs well filled with meat
- **Belly** Well covered with wool
- **Fleece** Moderately short; close fine fibre without tendency to mat or felt together and well defined, i.e. not shading off into dark wool or hair
- **Skin** Fine, Soft and pink colour

5. Division of the breeding book:

The breeding book consists of a main section with one class only (PED). The conditions for entry are:

- a) be descended from parents and grandparents entered in the Society breeding book or any other breeding book of the same breed.
- b) be identified according to Union animal health law and the rules of the breeding programme.
- c) have a pedigree established according to the rules of the breeding programme.
- d) in the case of trade in or entry into the Union of an animal, and where that animal is intended to be entered in the breeding book, the animal shall be accompanied by a Zootechnical certificate for the breed.
- e) where an animal is produced from a germinal product which is traded or which is entered into the Union and where that animal is intended to be entered in the breeding book, that germinal product shall be accompanied by a Zootechnical certificate.

6. System for Identifying Breeding animals:

The five digit individual EID number is used as the pedigree unique ID number and is denoted by an eartag.

In addition all pedigree flocks are allocated a three character Flock Number which shall be used to identify lambs born in that flock with the year of birth and the five digit individual EID number on the reverse of the official eartag. For example, a Suffolk sheep entered in the breeding book with the number AAA:20:00235 would indicate this lamb was born in the 2020 lambing season, into Flock AAA and has an Individual number 00235 which corresponds the digits on the individual EID number.

All rams must also be named by the owner by using firstly the registered prefix of the breeder and secondly a further name or names. In no circumstances shall any other or additional registered prefix be used. The animal's name shall not be accepted if it has been previously used and in this event another name will be substituted by the Society in consultation with the owner. The length of the name is limited to 27 characters including spaces.

7. Procedure for entering animals and imported animals in the breeding book:

a) Procedure for Entry of animals (Two Stage Process)

STAGE 1

The birth of every lamb, alive or dead, to any dam entered in the breeding book shall be notified to the Society either by annual return of the Birth Notification form or through the Sheep Ireland online recording system, or any other such provider as approved by the Society and notified to the authorities, by the breeder or his/her representative/s within the prescribed time as notified by the Society to the breeder in annual correspondence sent both electronically and by post to all breeders. Thereafter late birth notification fees will apply.

The completed Birth Notification return form or On-Line Registration must include all necessary information to enable the pedigree registration to be completed, including the breeding book number of the sire and dam of the animal along with the date of birth, the sex and whether born easily or requiring assistance. Part of the Birth Notification process is identifying the method of service by the ram and whether the lamb is conceived through NS (Natural Service), AI (Artificial Insemination) or is an

ET (Embryonic Transfer). ET lambs are required to be DNA'd to verify the dam and sire.

STAGE 2

In the event of an error the registration is placed in a holding category in the Society's database. Once the problem is rectified the birth notification or registration will be completed. In the event of the issue not being resolved the breeder then must notify the Society office with the necessary amendment by phone, email or in writing. To do this, the animal must be birth notified.

Registration fees and late birth registration fees as approved by the Society from time to time are attached in Appendix 1.

b) Procedure for Entry of imported animals from another breeding book

Animals will only be allowed into the breeding book on submission to the Society of a Zootechnical Certificate issued by a recognised breed society or listed breeding body. Admission into the flockbook is subject to a fee as set out in Appendix 1.

Deregistration of an animal: A member may deregister an animal provided the animal is their property and where the animal has no progeny entered in a flockbook for the breed. The process to deregister is notification of de-registration to the Society office and return of the Zootechnical certificate. An animal may be re-registered by the person who requested the de-registration or by a new owner provided the person who instructed the deregistration gives consent in writing of the re-registration with the appropriate fees applying.

Note:

- Where semen is been collected for AI, the donor ram must have undergone performance testing or genetic evaluation
- Where embryos or oocytes are been collected, the donor ewe must also have undergone performance testing or genetic evaluation

- The Society reserves the right to cancel or refuse an animals' registration within the breed book where registration has been made on the basis of information subsequently found to be inaccurate, misleading or deficient.

8. Control checks for recording pedigree of the breeding animal:

- Every 100th lamb notified to the Society shall be required to be DNA typed to confirm parentage. The cost of these tests will normally be paid by the breeder, however, the Society may from time to time subsidise these costs. Breeders will be notified in advance of any cost implications. (This excludes animals already genotyped)
- The Society reserves the right to inspect every 50th lamb notified to the Society. The inspection procedure may include the collection of photographic evidence and the collection of root hair follicles for DNA processing.
- All rams used for breeding purposes must have been DNA typed (parentage verified) by an approved laboratory, before progeny can be accepted for notification of birth.
- The Society reserves the right to carry out flock inspections. The objective of flock inspections is to maintain the integrity and rules of the flockbook. Such flock inspections will be carried out according to the 'Flock Inspection Protocol' as authorised by the Society which includes the collection of weight and photography information and collection of root hair follicles for DNA processing. The 'Flock Inspection Protocol' is available on request in writing from the Society Office. It will also be forwarded to breeders a minimum of two weeks in advance of any Flock inspection.

Flock inspections may be triggered by:

- Numerous complaints to the society office.
- Irregularities from photography
- Results of random DNA samples
- Where discrepancies arise from DNA tests
- Sheep Ireland Inspection which highlights irregularities

Flock inspections will be carried out by persons acting on behalf of the Society. The authorised person(s) will carry out the inspection accompanied by a competent independent person. Inspectors will act in an independent and non-discriminatory manner and will not inspect stock in which they may have a vested interest. The Society and its servants shall not be responsible for any injury, loss or damage, to a person or property, occurring during or arising out of such inspections.

- The Society reserves the right to carry out random DNA sampling. Independent veterinary surgeons will carry out these inspections accompanied by a Society representative who may or may not be a member of the Management Committee. The cost of these inspections will be met by the Society.

- Other control checks are carried out in relation to gestation length, transfer fees outstanding, membership fees owed, DNA outstanding or any other issues which may warrant further investigation and place the registration of an animal on hold until the issue is resolved.

- 9. Information on the system for recording pedigrees of purebred breeding animals:** The system used for recording pedigrees of purebred animals is an electronic database system known as Sheep Ireland.

For each animal entered on the database the following information is recorded where applicable: name of the animal, date of birth, parents and grand-parents, sex, Flock Book number, EID ear tag number, name and address of breeder, name and address of owner, twinning status, date Birth Notified, date of birth, date registered, Scrapie Genomic type, DNA typed, parentage tested, results of performance testing, date of genetic evaluation, genetic defects and peculiarities, insemination or mating information, other relevant information to the registration process.

10. Selection and Breeding Objectives:

The breeding objective of the Suffolk breed is to develop a breeding animal which exhibits the following traits: a functionally correct animal, good carcass conformation, lambing

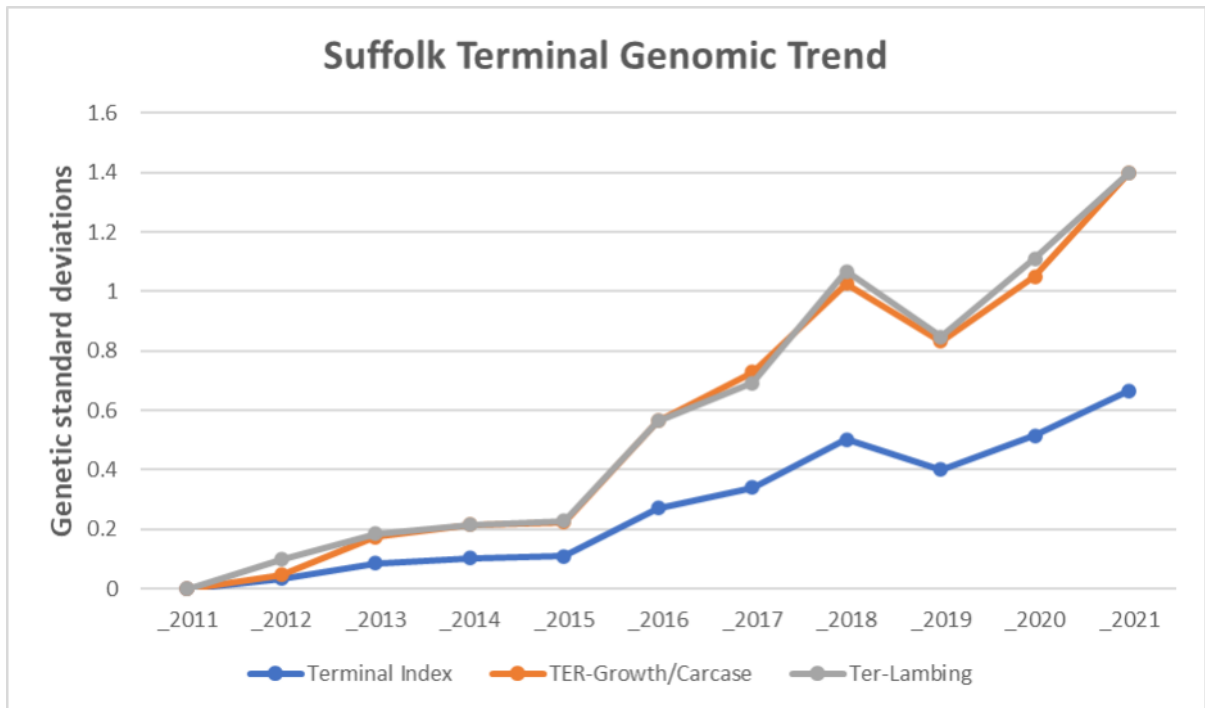
ability with good depth of loin, length, depth and round of gigot, width of the gigot. Maternally the females must have good pelvic width to enable lambing ability, milkability, neat udders and good teats, fertility, good functionality, longevity and still possess good terminal traits such as carcass conformation. These traits are all identified, measured and the results published in the Sheep Ireland Eurostar indexes.

Genetic merit is presented in monetary units, and a percentile star-rating helps breeders select the most profitable Suffolk animals. Suffolk breeding animals will be selected based on a visual appraisal for breed standard characteristics combined with the animal's genetic indexes. This coincides with Sheep Ireland's current national breeding objective, which is to increase the rate of genetic gain in the Irish sheep sector by identifying and promoting the use of rams with more profitable and sustainable genetics. This is achieved by gathering performance data from the top rams in the country and accessing their strengths and weaknesses using genomic evaluations. The genomic evaluations are developed into two overall selection indexes: Terminal index and Replacement index. The Terminal index ranks animals based on their ability to produce live, fast-growing terminal progeny with little lambing difficulty. The Replacement index ranks animals on their daughters expected maternal performance for mothering ability and ease of lambing and takes cognisance of the terminal traits they will transmit to their progeny. Terminal and Replacement indexes measure a selection candidate's genetic potential to generate profit at the farm level. Suffolk breeders can achieve the objective of the South of Ireland Branch Suffolk Sheep Society by selecting animals based on their Terminal index and taking into consideration some elements of the Replacement such as Number of Lambs Born. Using the Terminal index Suffolk breeders can identify animals/bloodlines that produce the most profitable carcass (and taking lambing & health into account). Using the Replacement index, Suffolk breeders can identify animals that are most suitable to breed profitable replacement females.

The development of each index's weightings and the estimation of economic values are based on the Teagasc Bio-Economic Model. The increase in profitability is a result of increased productivity (e.g., increase weight gain, increased litter size), reduced labour (e.g., less lambing difficulty) and reduced costs (e.g., reduced dagging costs, reduced lameness control costs).

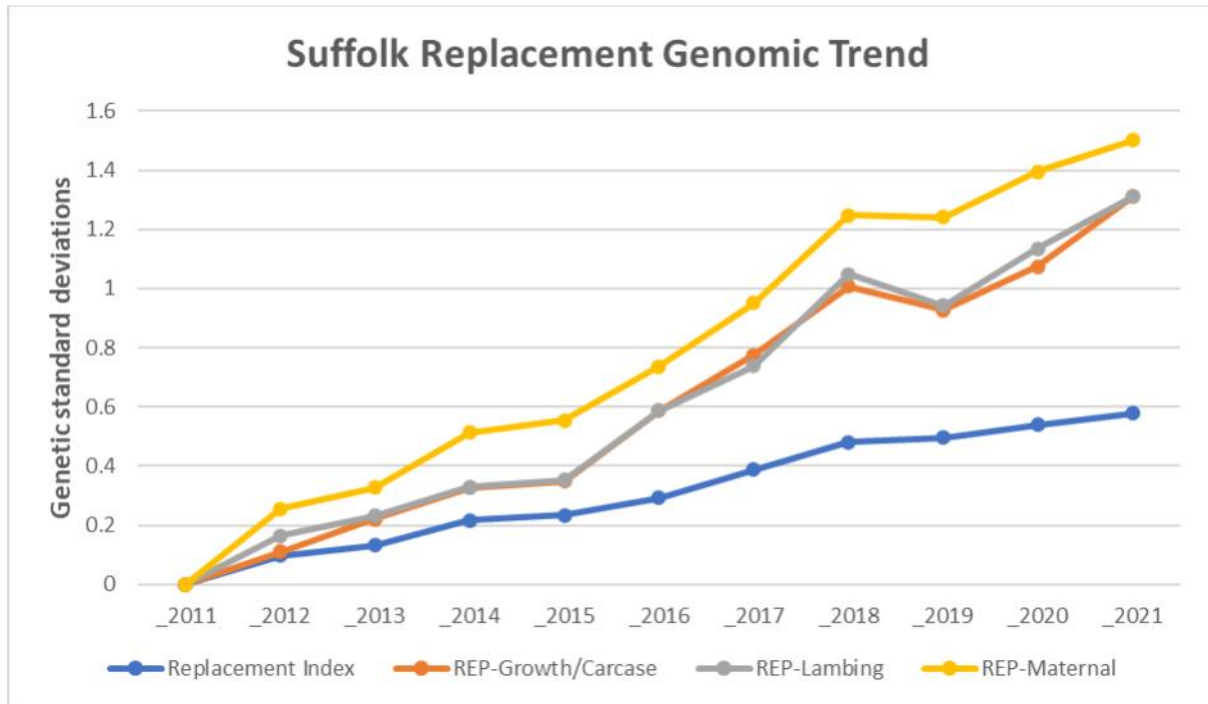
Suffolk sheep breeders use the Terminal and Replacement breeding indexes produced by Sheep Ireland where they are available, and this data is available on the Sheep Ireland website at all times (<https://appsh.sheep.ie/ram-search>).

Figure 1: Suffolk Terminal Genomic Trend



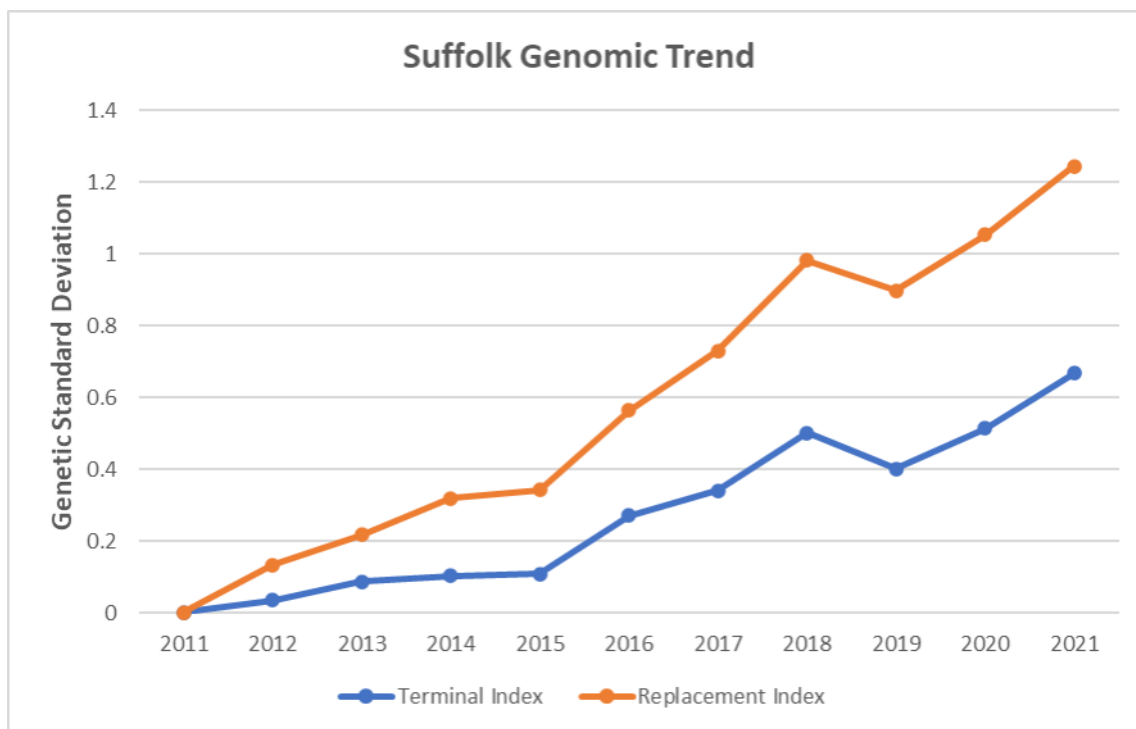
In Figure 1, the rate of genetic gain for the Suffolk breed in terms of their Terminal Index since 2011 can be seen. Considerable progress has been made on the Terminal index. Since updating the Sheep Ireland evaluations in 2019, the Suffolk breed has been improving at a rate of 0.132 genetic standard deviations per year. The society in conjunction with Sheep Ireland plan to increase this rate of gain by 20% (0.159 Standard deviations per year) in the next 5 years by further promoting the use of genetic index when selecting breeding animals. The Suffolk breeding objective aligned with the Sheep Ireland national breeding objective have made an impact on the overall Suffolk breed improvement over the years making the breed genetically superior.

Figure 2: Suffolk Replacement Genomic Trend



In figure 2, the Replacement Index is made up of three main sub-indexes such as Growth/Carcase, Lambing and Maternal Indexes which have all positively increased since 2011. Since updating the Sheep Ireland evaluations in 2019 to an a crossbreed evaluation, the Suffolk breed has been improving at a rate of 0.040 genetic standard deviations. The society in conjunction with Sheep Ireland plan to increase this rate of gain by 20% (0.048 Standard deviations per year) in the next 5 years by further promoting the use of genetic index when selecting breeding animals. A large percentage of the national ewe flock includes Suffolk genetics; thus this trend is very encouraging for both the society and Sheep Ireland.

Figure 3: Comparison of the Suffolk Terminal and Replacement Genomic Trend



Since 2011, there has been undeniable genetic gain within the Suffolk breed in the overall Terminal and Replacement Indexes, and this is largely down to using the genomic selection indexes. The Suffolk breed is characteristically a Terminal breed, however using genomic selection, it is evident that the breed has made some significant gains on their maternal characteristics since 2011.

It is evident that through selection and breeding, significant progress has been achieved in the development of traits related to the productivity of Suffolk animals, leading to reduced production costs at the farm level. The South of Ireland Branch Suffolk Sheep Society take animal welfare and environment-related concerns seriously, and measures are in place if and/or when concerns are brought to the society is aware of such concerns. Through the application of genomics and the use of advanced information technologies, which allows large data sets on alternative traits, directly or indirectly related to animal welfare and sustainability issues, to be recorded. These hold considerable potential to address concerns in society and achieve sustainable animal breeding objectives in terms of improved resource efficiency and the enhanced resilience and robustness of animals. The collection of data on these alternative traits gains importance within the breeding programme framework and are given greater prominence in the definition of selection objective.

11. Performance testing and genetic evaluations:

Performance testing and genetic evaluations for the breed is outsourced to Sheep Ireland. A base level of performance data is provided to Sheep Ireland by the Society for all animals entered into the breeding book. Additional performance data for their breeding animals, which will increase the reliability of evaluations, may be provided by breeders that participate in the Sheep Ireland programme 'LambPlus'.

Sheep Ireland produces two genetic indexes, the Replacement index, and the Terminal index. Both indexes are aimed at increasing the profitability of the Sheep industry in Ireland. In the Terminal index, the goal traits target male animals that produce fast-growing lambs with optimum carcass quality at slaughter and with minimum intervention at lambing time. To capture the growth and carcass quality, components of the Terminal index ('days to slaughter', 'carcass conformation', and 'carcass fat') are created from collecting performance data such as lamb live weight records, ultrasound scanning records (muscle and fat depth) and carcass data from Irish processors. This Ultrasound scanning service is made available to all Suffolk breeders participating in LambPlus. Lambing difficulty and lamb survival economic breeding values are created using on-farm recorded data where lambing difficulty is scored from 1 (no intervention) to 4 (veterinary assistance). Lamb deaths are recorded on farm and feed into the survivability index. The phenotypes mentioned in this paragraph feed directly into the genetic evaluations and impact both the Terminal and Replacement indexes.

The aim of the Replacement Index is to select animals that produce daughters with favourable maternal ability and produce fast-growing lambs at optimal carcass composition to account for the proportion of a maternal animal's progeny that are slaughtered. Therefore, the discounted genetic effects of dam on the growth, slaughter, and lambing traits were weighted into the Replacement index alongside ewe mature weight (recorded at adult age before the breeding season) and the number of lambs born.

To generate more accurate genetic evaluations, Sheep Ireland runs a Central Progeny Test (CPT). This comprises of four flocks with over 2,500 cross-bred ewes. Each year approximately 30 Rams from several performance recording breeds including Suffolk's, are used to mate with these ewes. The subsequent lifetime data of each of the resulting lambs then intensively recorded by Sheep Ireland. Lambs are either sent to the processors

or retained as breeding females. The retained breeding females allow the genetic evaluation to test the maternal ability of each bloodline. As new data is collected, the genetic evaluations are updated to reflect the new data. Genetic evaluations are run weekly and are available to the public for flocks that avail of the LambPlus service. The data collected on these flocks is captured using the Sheep Ireland App. This App is used by breeders to record their flock phenotypes. The data collected on the App is stored on the Sheep Ireland central database.

The Sheep Ireland genetic evaluations are independently validated by Teagasc (Teagasc is the state agency providing research, advisory and education in agriculture, horticulture, food and rural development in Ireland.). The latest research from 2018 has shown that flocks that consistently use 5 Star (Top 20%) rams for breeding in their flock could increase profitability by €5 net profit/ewe/year.

Sheep Ireland has a Technical Advisory Group (TAG) comprised of two international geneticists with significant experience of breed improvement programmes, one Irish geneticist who has a detailed insight into Irish Sheep farms and a Sheep Ireland board member. This group reviews any changes to the genetic evaluation model before release. The TAG also advises on new research directions to ensure the genetic evaluations are delivering the maximum feasible return for the Irish Sheep industry. The evaluations are carried out on Mix99 and ASReml.

Sheep Ireland is a non-profit organisation funded via the Irish Department of Agriculture, Food & the Marine, Levy's collected from Irish Sheep farmers and some service fees. As so much funding comes from the industry, there is a strong oversight of all Sheep Ireland activities from the Sheep Ireland board, representing all industry stakeholders.

Figure 3: Relative emphasis on each selection index

Relative emphasis on the indexes

Trait	Terminal	Replacement	
Days to slaughter	48.44%	15.66%	Prod/Growth
Carcase conformation	11.78%	3.81%	
Carcase fat	1.50%	0.49%	
Single lambing difficulty	1.04%	0.35%	Lambing
Multiple lambing difficulty	0.64%	0.21%	
Lamb survival	34.94%	11.68%	
Health - Dag	1.53%	0.54%	Health
Health - Lameness lamb	0.13%	0.04%	
Health - Lameness ewe		0.07%	
Ewe milk @40days		11.90%	Maternal
Ewe barrenness		10.09%	
Ewe mature weight		8.95%	
Maternal lamb survival		11.81%	
Maternal single lambing diff		0.15%	
Maternal multiple lambing diff		0.12%	
Number of lambs born		24.13%	

Genetic evaluation results are made available to breeders via their Sheep Ireland account. The evaluations of rams are also available to the public via the Ramsearch.ie. This allows commercial farmers to identify and source their next stock ram based on genetic indexes. When the society is generating sales catalogues for any sale, the genetic evaluation results are automatically included in the sales catalogue.

Another aspect of the genetic evaluations worth noting is the Data Quality Index (DQI) which is given to each Suffolk breeder involved in the LambPlus programme. The DQI plays an integral role in the generation and publication of genetic evaluations. Breeders who acquire higher DQI's make greater genetic gain. The implementation of the DQI has increased the integrity of data on the Suffolk breed which flows into the genetic evaluations. The South of Ireland Branch Suffolk Sheep Society in collaboration with Sheep Ireland will continue to encourage better data recording through the utilisation of the DQI.

Sheep Ireland incorporates a flock visit as a condition of the LambPlus programme, maintaining the integrity of data collected from Suffolk breeders. LambPlus Suffolk breeders receive reminder texts on a regular basis from Sheep Ireland on what is required to be recorded, as well as useful wall chart and frequent letters of important updates throughout the year. The South of Ireland Branch Suffolk Sheep Society communicate on a regular basis with Sheep Ireland on how best to preserve and promote the Suffolk breed while focusing on the genetic diversity of the breed and minimising the potential for inbreeding. LambPlus Suffolk breeders have access to an inbreeding checker to minimise the risk of inbreeding within the flockbook.

For further information on availing of the LambPlus programme breeders should contact the Society Secretary.

12. Technical activities outsourced:

Performance recording services are outsourced to Sheep Ireland. Sheep Ireland provide:

- [€uroStar generation and report](#)
- [Online Genomic ordering & report](#)
- [DAFM approved scrapie testing](#)
- [Online Flock Inventory](#)
- [Mating Recording & report](#)
- [Lambing Recording & report](#)
- [Weighing Recording & reports](#)
- [Flock health recording & report](#)
- [Pregnancy scanning recording & report](#)
- [Ram report](#)
- [Inbreeding checker](#)
- [Ultrasound Scanning service and report](#)
- [Dual DQI for flocks with pedigree and commercial animals](#)
- [Birth notification and pedigree management with many breed societies](#)
- [LambPlus support](#)

Sheep Ireland's contact details are:

Telephone: 023 882 0451

Fax: +353 (023) 8820229

Email: query@sheep.ie

Sheep Ireland,
Highfield House,

Shinagh,
Bandon,
Co. Cork,
P72 X050

13. Zootechnical certificate:

- The Zootechnical certificate provides information on the owner and breeder of an animal. In the context of Zootechnical certificates, the breeder is the person who has bred the animal and who owns the animal when entering the animal in the breeding book. The owner is a paid-up member of the Society.
- The Zootechnical certificate is issued to a breeder for an animal when it fulfils the rules of the breeding programme for entry into the breeding book.
- Results of relevant genomic tests, performance testing and/or genetic evaluations are published on the Zootechnical certificate.
- An animal found to have a genetic defect or genetic peculiarities following linear assessment or flock inspection shall have details of such published on its Zootechnical certificate or any other official documents provided by the Society. In the event of an animal not being inspected breeders must notify the Society office of any genetic defect or peculiarities on an animal.
- The procedure for the change of ownership is that the new owner receives the Zootechnical certificate when taking ownership of a purebred animal and submits it to the Society office. If everything is in order the Zootechnical certificate will be reissued to the new owner with the name of the new owner displayed on the Zootechnical certificate. The new owner must be a member of the Society.
- Zootechnical certificates for purebred breeding animals and germinal products shall be issued within one month when the animal/germinal product are considered to be purebred except in the event of exceptional circumstances.

Appendix 1

Schedule of Registration Fees

	Members	Non Members
Birth Notifications (NS, AI & ET- Male & Female)	3.00	6.00
Birth Notifications (NS, AI & ET- Male & Female) Lamb Plus Members	1.50	3.00
Male & Female Registrations/ Zootech Certs AI/NS	5.00	10.00
Male & Female Registrations/ Zootech Certs ET	25.00	50.00
Animal Transfer Fee within the Republic of Ireland - Male	35.00	70.00
Animal Transfer Fee within the Republic of Ireland – Female	20.00	40.00
Imported Ram/Ewe & Transfer from another Zootech Flock	100.00	200.00