Selkirk Rex Cat Breeding Policy

Guidelines for Healthy & Responsible Breeding

Forward

This breeding policy has been written to accompany and supplement the Selkirk Rex Registration Policy and should be read in conjunction with that document. If there are any queries regarding either document, these should be referred to the Breed Advisory Committee delegates of the affiliated Selkirk Rex Cat Club.

The aim of this breeding policy is to give advice and guidance to breeders of Selkirk Rex Cats, to ensure best practice prevails. The over-riding objective is to conserve and improve the Selkirk Rex cat, working to meet all aspects of the Standard of Points, which describes the ideal for the breed. Breeders should learn how to gain the best out of their breeding plans by adding value into the Selkirk Rex and how to make decisions that can only better its on-going development. A balance should be sourced to balance the need for selective outcrossing to increase the gene pool and improve stamina and health with the need to breed Selkirk Rex with sufficient preceding generations of Selkirk to Selkirk matings to produce consistent type. Co-operation between breeders, with the GCCF and internationally, will ensure that diverse breeding lines are maintained within the breed and the breeders have sufficient options to maintain low inbreeding coefficients.

Acknowledgements

- Governing Council of the Cat Fancy Breeding Policy
- Feline Advisory Bureau
- Rex Breed Advisory Committee
- Selkirk Rex Cat Club UK Committee & Members
- British Shorthair Breed Advisory Committee

Contents

What is a Selkirk Rex Cat?

The Selkirk Rex is produced by a dominant gene affecting the guard, awn and down hairs. The curls are more prominent around the neck, underside and rear in both coat lengths. Guard hairs tend to have a coarser texture, especially over the back, but the coat is very dense and the overall texture is soft and plush. The whiskers and eyebrows are curly.

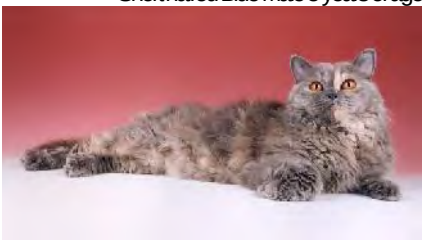
Kittens are curly from birth, especially the whiskers. The quality and definition of the curl may be lost as they grow during kittenhood, but should return from 8 to 10 months as the adult coat develops.

The Selkirk Rex is similar in type to the British shorthair. It is a medium to large cat with solid muscle tone and substantial boning. This gives surprising weight and an impression of power.
The breed has an alert and active personality coupled with a sweet, endearing disposition that is very appealing. They are friendly and affectionate, mix well with other breeds and make wonderful family pets.
They occur in both longhaired and shorthaired varieties and very many different colours and pattern.

Short haired Blue Male 5 years of age

Selkirk Rex Temperament

Selkirk Rex cats have a special relationship to their humans; they are very playful and intelligent, affectionate and uncomplicated in nature. Due to their natures, they make excellent undemanding indoor pets but with just the right amount of inquisitiveness to love the outdoor life too. They adore company and love nothing more than a feline companion or two. They are hard to faze and even happy to bed down with the canine members of the family.



Longhaired Blue Torie Female 2 years of age

Longevity

The Selkirk Rex cat follows the British Shorthair in their general life span, living on average 14 to 18 years.

History of the Selkirk Rex Cat

The Selkirk Rex breed is one of the newest natural breeds, with a naturally curly coat and originating from the housecat. Miss DePesto of Noface who was born in 1987, in Sheridan, Montana in the shelter, called For Pet's Sake, run by Kitty Garrett Brown.

Miss DePesto (pictured right) was a blue-cream-white female with green eyes and that naturally curly coat. Her original name was Curly-Q, because of her strange curled coat. When she was placed at a very young age, she was returned to the shelter, because her owner felt that she cried too much and was too demanding. Within nine weeks she was placed again and came to Peggy Vorrhees of the Bozeman Human Society, who brought her to the Persian breeder, Jeri Newman in Livingstone, Montana. Jeri changed her name and called her Miss DePesto, after a character from the television series Moonlighting. She bred her to Champion PhotoFinish of Deekay, a black Persian.

Miss DePesto produced three curly kittens out of a litter six on July 4, 1988: Noface Oscar Kowalski, a black and white curly shorthair male, Noface Sheela, a black curly shorthair female, one tortie curly shorthair female, two black straight-haired shorthair males and one black straight-haired longhair female. Note that there was also born a longhair kitten.

In 1989, Oscar was bred back to Miss DePesto, who gave birth to a litter of 4 on July 15, 1989: Noface Snowman, a shorthair curly red point male, two shorthair curly tortie females and one shorthair straight-haired female. Note that there was a pointed kitten in this litter. Oscar is the father of the majority of Selkirk Rex lines.
Thus it turned out, that the gene causing that curly coat, was dominant, and that Miss DePesto carried the genes for long hair and colourpoint.

NoFace Oscar Kowalski and his son, NoFace Snowman

Miss DePesto was bred five times, once to PhotoFinish, the black Persian, twice to her son Oscar, once to a housecat, named Mr. Rogers, and once to Ch Razberrilane Purrpower of Big Sky, a shaded golden Persian.

Jeri Newman also wrote the first standard desiring the more 'British' look. She chose the name Selkirk, using the family name of her stepfather. There are also the Selkirk Mountains, about 75 miles away from the birth place of Miss DePesto, and a creek called Selkirk, about 20 miles away.
The breed was first recognized by TICA and ACFA in 1994. The first Selkirk Rex shown at a CFA show in Salt Lake City, Utah, in January 1990, were Oscar and his son Snowman. CFA accepted the Selkirk Rex as a miscellaneous breed in the shorthair category in October 1992.

From the 3rd litter of Miss DePesto (with her son Noface Oscar Kowalski), Noface Grace Slick, a blue point-white female, born on February 10, 1990, went to Mary Harrington in Switzerland. An article about Grace published in the French cat magazine 'Atout Chat', attracted many interested people. One was Regine Lohre (cattery du Clos Des Anges), who contacted Mrs. Harrington and got Grace, thus becoming the foundation queen for the Selkirk Rex in France.

One kitten of Grace born 1992 in France, called Helosia du Clos des Anges, went to a breeder in the German town of Saarlouis and became the foundation queen of the Selkirk Rex in Germany.

Entry into the UK

The first Selkirk Rex in the UK arrived on February 7 and 8, 2002. They were three siblings bred by the Austrian breeders Christiana & Karl Aichner. The mating that produced them was DGC Serenitie Betty Boop of Courtlycats, a dilute Calico SH female x RW SGC Conan von Ebenthal of Courtlycats, a blue BSH male. The first of the three was Courtlycats Count Basie, a cream LH male, which arrived on February 7 at Kresant cattery (owned by Angela & Jim Mann).

On February 8, 2002, the 2 other of the 3 siblings arrived in the UK: GC Courtlycats Call Me Madam to cattery Toreska (owned by Linda Davison), and CH Courtlycats Cookies n Cream, a LH blue-cream female, to cattery Trueblu (owned by Lisa Peterson).

Photo: February 8, 2002 Lisa Peterson meets Christina Aichner at Heathrow Animal Reception Centre

The UK Show Cat

Due to the striking looks of the Selkirk Rex and their adaptable natures, which enable them to be easily handled by strangers, the breed quickly gained attention when brought out for exhibition at GCCF shows, as part of the breed recognition process. The Selkirk Rex were able to gain Preliminary status with the GCCF from 2004 with the first UK bred kittens shown for merit awards at the Kensington Kitten & Neuter Show in the July. These kittens were Catbalu Fristante, Frascati and Fleurie; all of whom earned their merits on the day.

By the November of 2004 the first home bred Selkirk Rex had gained its four merits, Trueblu DaringPositively, a Shorthaired Blue Self, bred by Lisa Peterson and grandson to one of the three founding Selkirks brought in to the country. Over the following two years a further sixteen cats followed

with their four merits; with an additional 28 cats and kittens having been shown to promote the breed earning one or two merits each.

From the beginning these cats generated much interest as show visitors and exhibitors became aware of the new breed. The first three breeders in 2002 quickly grew to include many well established catteries throughout the UK. These cats were the ideal companion to any British Shorthaired, Persian & Exotic breeding programmes, introducing valuable new blood into the imported lines. By 2006 more than 28 breeders were registered as working with the Selkirk breed.

At the beginning of 2006 the Selkirk Rex Cat Club was formed with the sole goal of promoting, developing and safeguarding the interests of the breed. With a small but dedicated Committee the club did manage, with a lot of cooperation between the early breeders and owners, the elevation of the breed to provisional recognition. This meant from June 1st 2007 the Selkirk Rex could compete for the very first time against themselves to gain Intermediate Certificates and be considered for Best of Breed, Best of Variety and more importantly Best in Show!

In August of 2007, Trueblu DaringPositively was awarded the first three intermediate certificates with Trueblu Jetranger following for the neuter classes. By October 2008, 23 cats had gained the required 4 ICs each with many more on their way. The club needed 20 cats with 4 ICs to satisfy the promotional criteria and with a concerted effort from all Selkirk owners and breeders, this was achieved by late August 2009. On October 29th 2009 at the GCCF Council meeting the motion was passed to accept the progression of the Selkirk Rex resulting in the breed elevated to Championship status from 1st June 2009.

The Selkirk Rex has full championship recognition with the following international cat registry bodies:

- The Governing Council of the Cat Fancy
- The International Cat Association
- The Cat Fanciers Association
- World Cat Federation
- American Cat fanciers Association
- The Australian Cat Federation
- New Zealand Cat Fancy
- Southern Africa Cat Council
- LOOF (Livre Officiel des Origines Felines)

Breeding System Information

The Selkirk Rex has been founded on some of the oldest and varied gene pools available to pedigree cats, these being the British Shorthair and the Persian longhair. Even with these solid foundations any good breeder needs to establish a dedicated breeding programme and have a basic if not good knowledge of cat genetics.

In order to ensure the maintenance of the good Selkirk Rex breed type already achieved, while allowing scope to further improve aspects of type, coat, pattern and colour, to meet the ideal described in the Standard, breeders need to have a clear, definite and well understood ***breeding system***. This means the development and management of a breeding programme in which certain cats are affirmatively selected to be bred to others, for predetermined reasons. Equally important, it also means that breeders allow no matings until they have given careful consideration to the outcome. In particular three key rules must be followed:

- **Health must be the overriding consideration in any Selkirk Rex breeding programme.**
- **The good and bad features of the individual cats should be assessed and weighed against each other before any mating.**
- **When planning a breeding programme, breeders must realise that doubling of the good traits in a cat also results in doubling the defects; the breeding of cats with similar faults should be avoided at all costs otherwise there is a danger of fixation.**

The prime motive is to perpetuate the Selkirk Rex as a recognisable breed; to improve the quality of the breed as measured against the Standard; and also to gain success on the show bench.

The skill in breeding lies in the choice of the individual cats and how these cats may be mated with each other – these two acts should be regarded as completely separate, although interconnected.

Selection

The phenotype of the individual cat is made up of a large number of genetic characteristics of varying expression. The ideal Selkirk Rex is one in which the expression of each of these characteristics is just right in the eyes of the breeder – this means that an intermediate expression will be required for some characteristics, but a more extreme expression required for others. This expression is controlled by selective breeding. However, selection by itself is not very efficient in eliminating heterozygous genotypes (the producers of variation and diversity) – it is one of the tools available, but has its limitations.

In the following pages we will cover some aspects of cat genetics. These are at a very basic level and we would advise you to refer to more established works in the field such as 'Robinsons Genetics for Cat Breeders' as well as your veterinarian.

Some of the information in this booklet has been taken directly from web sources and to our knowledge is correct at the time of publication and would suffice any novice breeder.

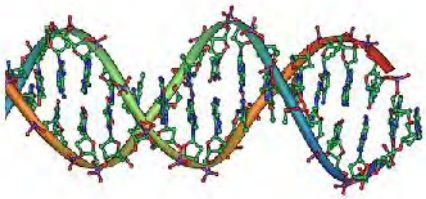
Gene Pool

All Selkirk breeding policies to date have encouraged outcrossing in the breeding selection. This is in order to maintain good genetic diversity and guard against genetic erosion so as to preserve good genetic health. Without outcrossing on a regular basis the gene pool would shrink with no source of fresh blood and inbreeding levels would rise, resulting in health problems. The process of outcrossing is made simpler for the Selkirk Rex because of the curly gene being dominant, meaning that curly kittens are produced in the majority of all outcross matings.

In 2014 within the UK there are around 60 known Selkirk Rex breeding adults either imported or bred from. This figure is tripled by the amount off our outcross breeds also being used within individual breeding programmes, allowing for enough unrelated breeding stock to produce healthy and viable kittens. These numbers have risen dramatically over the first few years since the breed's introduction to the UK due to the amount of conscientious foundation breeders, second generation breeders and the ever growing popularity of the Selkirk Rex on the show bench.

The choice of British Shorthair and Persian as the main outcross breeds for the Selkirk Rex provides a genetic benefit o the breed as both of these breeds have good genetic diversity themselves. The 2007 study 'The ascent of cat breeds: Genetic evaluations of breeds and worldwide random-bred populations' conducted at University of California (Davis) by Monika Lipinski, Leslie Lyons, Niels Pedersen and colleagues examines the genetic diversity in different cat breeds and non-pedigree populations. The British Shorthair has an average allelic richness of 2.96 and the Persian 2.90, both higher than the all-breeds average of 2.74. This shows that reliance on these two breeds as the main source of outcrossing provides sufficient genetic diversity to maintain a healthy gene pool for the Selkirk Rex breed.

Selkirk Rex Gene (Genetics for Curl)



The dominant mutation that causes the curly coat in the Selkirk Rex breed has been identified. It behaves as an incomplete dominant; that is one copy produces cats with a wavy coat and two copies produce a tighter curl to the hair. Homozygous cats also often have a more slender body type with larger ears. The Selkirk Rex show standard was written to reflect the appearance of the heterozygous cat, although some homozygous Selkirk Rex have been shown with success.

The mutation was discovered by Dr. Barbara Gandolfi of the Lyons Feline Genetics Research Laboratory at UC Davis in 2011. The mutation affects function of a gene crucial for hair formation and maintenance. A scientific manuscript was published in the Journal of Heredity in July 2012 entitled 'Selkirk Rex: Morphological and Genetic Characterization of a New Cat Breed'.

The three main types of Selkirk Rex cats:

Heterozygous curly cats (Se/se) these cats have the dominant curly gene but also carry the recessive straight-haired gene.

These cats when mated with an outcross or straight-haired Selkirk Rex will produce an average of 50% curly kittens and 50 % straight-haired kittens, they are the favoured option for breeding purposes as they not only produce kittens of the desired breed type but also ensure curly kittens in the majority of matings.

Homozygous straight-haired cats (se/se) These cats only possess copies of the straight-haired gene and are referred to as variants. They will not produce any curly kittens when bred to outcrosses; the only way curly kittens can be produced from a mating using a cat of this genetic make up is to mate them back to a Selkirk Rex homozygous for curl (Se/Se), or Heterozygous for curl (Se/se). These Selkirk variants are extremely useful for breeding programmes as they still retain the Selkirk type and personality.

Homozygous Curly Haired cats (Se/Se) These cats have two copies of the Selkirk Rex gene and will only produce curly kittens when either bred with outcrosses or any other Selkirk Rex (heterozygous, homozygous or variant).

Genetics Diagram: To assist in understanding of how these genes work, '**Se**' is dominant curly, '**se**' is recessive straight. All cats have two of these genes, one inherited from the mother and one inherited from the father.

Mating 1: Sire: Outcross breed or Selkirk Rex variant (se/se) Dam: Heterozygous Selkirk Rex (Se/se)

		Sire	
		se	**se**
Dam	**Se**	**Se/se**	**Se/se**
	se	**se/se**	**se/se**

Kittens produced in this litter:

50% Curly
50% Straight

Mating 2: Sire: Heterozygous Selkirk Rex (Se/se) Dam: Heterozygous Selkirk Rex (Se/se)

		Sire	
		Se	**se**
Dam	**Se**	**Se/Se**	**Se/se**
	se	**Se/se**	**se/se**

Kittens produced in this litter:
50% Curly (Heterozygous)
25% Curly (Homozygous)
25% Straight-haired

Mating 3: Sire: Homozygous Curly Selkirk Rex (Se/Se) Dam: Heterozygous Selkirk Rex (Se/se)

		Sire	
		Se	**Se**
Dam	**Se**	**Se/Se**	**Se/Se**
	se	**Se/se**	**Se/se**

Kittens produced in this litter:
50% Curly (Heterozygous)
50% Curly (Homozygous)

Colour and Pattern

The Selkirk Rex has no restrictions on acceptable colours, patterns or combinations, so a huge number of variations are possible. These variations are controlled by a wide and varied group of both dominant and recessive genes; therefore a general understanding of cat genetics is required:

To make it easier for Selkirk Breeders that also show with the GCCF, referral to the British Shorthair breeding policy is advisable. Although coat colour and eye colour have little to no relevance in the Selkirk Rex Standard of Points, when an exhibitor's cat is being shown to a high level and competing against cats in the British section, that conform to both type and colours standards, the Selkirk requires that winning edge to gain a more beneficial placement, so conformation of eye to coat colour is favourable., i.e. a blue cat with orange eyes, a golden cat with green eyes.

Basic Genetic Info:

Gene: (from the Greek genos origin) the hereditary factor transmitted by each parent to offspring and which determines hereditary characteristics.

Genetics: the scientific study of the heredity of individuals, especially of inherited characteristics.

Genes: Every living being that is reproduced from two parents inherits characteristics equally from both of them.
These characteristics are determined by genes, control mechanisms carried rather like beads on strings along two rod-like bodies, called **chromosomes.** For each particular trait or characteristic, there is a gene arranged in a particular order along the chromosome that controls the expression of that trait.

Cells and Chromosomes: Living organisms are composed of cells. A typical cell contains a nucleus, within which are DNA and RNA-the building blocks of life. The DNA is organised into chromosomes which in turn carry the genes.

There are two types of cells, body cells and sex cells, and in the cat each cell has 38 chromosomes, which are arranged in pairs-19 pairs in all. Sometimes both halves of a pair carry identical genes, sometimes not. Out of these 38 there are only two chromosomes that determine the sex of the individual-the **X** and the **Y** chromosomes. Only males have the **Y** chromosomes, and **XY** denotes a male, while the female is **XX.** Prior to fertilisation taking place at mating, the gametes (sperm or ova), receive half a set of chromosomes from each parent. During fertilisation, the sperm and ova fuse to produce a new

A typical chromosome

genetic combination in the resulting fertilised cell or **zygote.** The newly formed zygote contains a random selection of those genes the parents have inherited from their parents. These then combine in the new cell to make up the full complement of 19 chromosome pairs.
A zygote develops into an embryo/foetus/newborn by cell division called mitosis. In normal cell division, which creates new cells for growth, the full set of genes is replicated for each new cell.

The animal's genetic makeup is called its **genotype.** Some of these characters may be hidden and are not perceived when one looks at the cat. The outward appearance is the **phenotype.** The difference can be caused by **dominant** or **recessive** genes. There are also genes that are not fully penetrant, masking genes, modifier or polygenes, sex-linked genes, and inhibitor genes, as well as disease-causing genes-but more of these later.

Modifiers or **Polygenes,** although not individually having a great effect, can act together to modify major genes such as those controlling the length of coat and depth of colour in fur or eyes.

Homozygous & Heterozygous: If a kitten receives identical genes from both parents for a particular characteristic, i.e. the genes on that pair of chromosomes are the same, and the animal is said to be **homozygous** for that trait. But if it receives a particular gene from one parent and an alternative from the other, the pair is made up of two different genes, and the animal is said to be **heterozygous** for that characteristic. Genes with a matched partner for a comparable characteristic-hair length for instance-are called **alleles,** and are found in the same spot or **locus** on the chromosome.

Once the basic rules of inheritance are understood, and the dominance or recessivity of any specific characteristics have been determined, it is possible to work out the characteristics to be expected from virtually any crosses between cats whose ancestry and genetic makeup is known.

Dominant and Recessive Genes: If a cat is homozygous (**BB** or **bb**) the same message is sent and received, both genes on that pair of chromosomes are identical. If it is heterozygous (**Bb**) the dominant gene is in control-the recessive (**b**) is still there, but may have little or no effect over (**B**) it's dominant partner. Solid white is a masking gene and is dominant to all other colours; black (or seal, or brown) are dominant to light brown and chocolate; tabby (**agouti**) is dominant to self or solid (**non-agouti**); shorthair is dominant to longhair, to mention just a few.

Mutations: A rare mistake in the process of cell division or, for instance, the effects of radiation, can bring about minute chemical changes which produce a variation in the DNA, or mutation. Several mutations have given rise to the various coat colours and patterns we see in our cats today.
In cats, the chocolate gene (**b**) is known to be a mutation of the black gene (**B**). It was a natural spontaneous mutation which changed black to chocolate by changing the eumelanin granules to a spheroid shape which refracts the light in a different way, making them appear chocolate.
Many other feline mutations are obvious, such as the Rex coat, the hairless Sphynx, the ears of the Scottish Fold and the American Curl, the Manx, Japanese Bobtail, and so on.

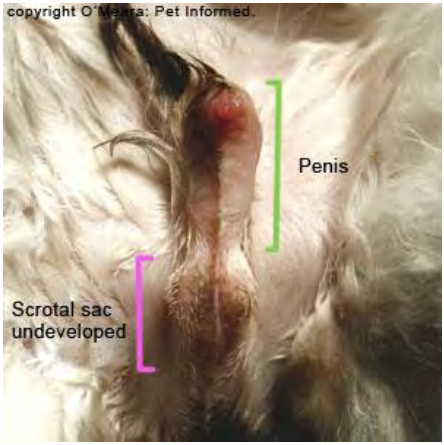
Pigmentation: Melanin is the substance which causes coloration of the hair shaft. The size and shape of these melanin granules is what determines the colour of the cat, and these in turn are controlled by its genes.

The pigment granules in each hair of the cat's coat contains either **Eumelanin** which is black, or **Phaeomelanin** which is yellow. Black melanin, or eumelanin granules are thought to be oval in shape and absorb almost all light. Red melanin or phaeomelanin granules are thought to be like elongated footballs in shape and refract light in the red-orange-yellow range. The true red gene, called orange by some geneticists and symbolised by O, converts eumelanin to phaeomelanin, and results in a rich orange-red coat. When the dilution gene is present, the colour appears cream or buff. The red and cream colour in the cat is called a sex-linked gene because it is carried on the X chromosome. To understand its mode of inheritance, we need to know sex and colour of parents. The mating of a red and a black parent can result in the spectacular mixture of shades of red and black seen in the tortoiseshell pattern that generally occurs in female cats. The possible kitten colours from the various combinations of red, tortoiseshell and non-red parents are better understood by the checkerboard colour diagrams as shown in textbooks such as *The Book of The Cat.*

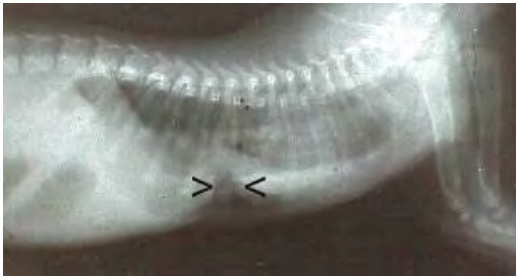
For further information on colour and pattern genes in the Selkirk Rex please see Appendix 1 Colour and Pattern genes in Sphynx and Rex Breeds.

Genes for Health

Undesirable Recessive Genes are very difficult to eliminate because they are not expressed or seen until they meet up with an identical partner in a particular mating. Some of the undesirable recessive genes which concern cat breeders could contribute towards conditions such as kinked tails, squints, malocclusions, haemophilia, flat-chested kitten syndrome, cryptorchidism (no testes descended) and monorchidism (only one testicle in the scrotum).



Cryptorchidism (no testes)



Flat Chested Kitten X-Ray

Dominant genes include split foot, and polydactily (abnormal number of toes). Other abnormalities which are thought to be genetic but the exact method of transmission is as yet unclear include luxating patella (footballers knee), amyloidosis, umbilical hernia, and protruding sternum. Genes for dwarfism, cleft palate, deafness, cardiomyopathy (heart disease) have also been identified in other mammals e.g. humans and/or mice.

Use of DNA Testing

There are an increasing number of DNA tests now available to the average pet owner/breeder. This enables breeders to make calculated decisions on the kittens they product form any one litter. Suitable testing laboratories can be obtained from the Selkirk Rex Cat Club website.

Hair length

Kittens whose parents are both shorthaired Selkirk Rex can be tested to see if they carry the longhair gene.

Colour and Pattern

Tests for colour and pattern genes can be used to determine both the correct colour and pattern to register a kitten under and to see what colour and pattern genes a cat or kitten carries. Available tests include:

- Agouti
- Black/Chocolate/Cinnamon
- Albino Series (Colourpoint, Burmese restriction)
- Dilute

Selkirk Rex Gene

Selkirk Rex kittens where both parents are curly coated can be tested to see if they are homozygous or heterozygous for the Selkirk Rex gene. Heterozygous Selkirk Rex carry the gene for straight hair. Testing laboratories offer a DNA test for the mutation. The test allows breeders to be aware of which cats can produce offspring with which outcome.

Inbreeding

Inbreeding is an inclusive term covering many different breeding combinations and degrees of relationship – including the more distant, less intense. It is consistently more efficient in eliminating heterozygous (varying and diverse) genotypes and increasing homozygous (same) genotype, thereby ensuring a greater likelihood that kittens will closely resemble their parents. Used here, the term does not mean close, purposeful, inbreeding of closely related cats (brother/sister, father daughter), but rather the moderate form that results from the mating of not too distantly related (but not directly related) cats (first cousins, half brother/half sister, second cousins, etc). Some in-breeding is essential to stabilise conformation around a definite type. In-breeding is the act of mating individuals of various degrees of kinship, and if continued it produces ever increasing homogeneity in the offspring.

It is important to monitor the percentage intensity of inbreeding for any mating – use this consideration as a key part of the decision making process when considering any mating, and remember: ***"The more intense the in-breeding, the more careful must be the selection". "Loss of innate genetic variability must not be too great".***

The overall approach should be one of balance and moderation in the degree of inbreeding coupled with consistent selective breeding with a clear objective in mind – i.e improvement of key aspect and/or the elimination of weak traits or defective genes.

Breeding systems and practices need to operate so as to ensure the Selkirk Rex gene pool contains enough variation to give scope to continue improving the breed and avoid the danger of either fixing type too quickly (before the ideal of the standard is reached) or deleterious genes being expressed and fixed in the breed. Breeders need to use acceptable levels of inbreeding to gain sufficient homogeneity to fix recognisable Selkirk Rex type, but with sufficient variation to both enable improvement, and maintain health and vigour, avoiding fixation of defective genes or unwanted traits (and to ensure the elimination of anomalies).

The golden rule is that health is paramount and must be constantly and consistently monitored; any evidence of weakness or the emergence of lack of vigour must be dealt with immediately through modification of the breeding system. No cat with any evidence of health problems or lack of vigour should be used for breeding.

Breeders should also be aware that research has shown that highly inbred animals are less likely to be show winners. Although a certain level of acceptable inbreeding can help to fix desirable traits, inbreeding depression can cause asymmetries and weaknesses that can be damaging to a cat's potential show success.

INBREEDING DEPRESSION

A breed, breeding line or individual can suffer from inbreeding depression when inbreeding co-efficients are raised to high levels and a loss of heterozygosity results. Inbreeding depression can result in a general loss of vigour, even if the animals in question are not suffering from specific recessive genetic diseases. A small gene pool can result in inbreeding depression in a breed. A popular and numerous breed with a small gene pool has a low 'effective population size', regardless of the numerical size of the breed's population. A popular breed with a small effective population size can be compared to an overinflated balloon.

Inbreeding depression can compromise a cat's immune system and make it less able to resist disease. A group of genes called the Major Histocompatability Complex, or MHC plays an important role in the immune system. The way in which the genes in the MHC are inherited means that it is particularly vulnerable to inbreeding depression and a loss of genetic diversity in the MHC can impact on the health of the cat.

Inbreeding depression can manifest in different ways depending on the particular make-up of the gene pool in question. Few cases of inbreeding depression will manifest all of the signs. Although these are problems which can occur in any random-bred cat, a combination of some of these signs could well indicate a problem with inbreeding depression. A Selkirk Rex breeder who is worried about inbreeding levels in their lines should consider introducing Selkirk Rex from different lines or outcrossing to approved breeds.

Signs of inbreeding depression include slow growth rate, small adult body size, small litter size, reduced fertility, increased kitten mortality, increased prevalence of allergies, reduced ability to fight infections, physical asymmetries, especially facial, an increase in congenital abnormalities, increased prevalence of cancers, increased incidence of genetic disease, and reduced life expectancy.

Acceptable levels for Co-efficients of Inbreeding;

0 to 10 % = Low
10 to 20 % = Fair
20 to 25% = Acceptable
25 to 40% = High. Only to be undertaken by experienced breeders for specific reasons.
40%+ = Not advised

Inbreeding coefficients should ideally be calculated back to foundation in order to give the most accurate reading. Breeders and clubs should share information from pedigree databases to help breeders make informed decisions about their breeding plans.

BREEDING GUIDELINES

The majority of matings are most likely to be between Selkirk Rex x Selkirk Rex, Selkirk Rex x Approved Outcross Breed and Selkirk Rex x Selkirk Rex Variant. Matings between Selkirk Rex Variant x Selkirk Rex Variant cannot produce Selkirk Rex but the offspring of such matings may be registered as Selkirk Rex Variants.

Matings of Selkirk Rex x Selkirk Rex Variant, or of Selkirk Rex x Approved Outcross breed can only produce heterozygous Selkirk Rex and Selkirk Rex Variants. Matings of heterozygous Selkirk Rex x heterozygous Selkirk Rex can produce homozygous Selkirk Rex, heterozygous Selkirk Rex and Selkirk Rex Variants. Matings of homozygous Selkirk Rex x heterozygous Selkirk Rex can only produce homozygous Selkirk Rex and heterozygous Selkirk Rex. Matings of homozygous Selkirk Rex x homozygous Selkirk Rex can only produce homozygous Selkirk Rex.

Breeders should ensure, to the best of their knowledge, that any Selkirk Rex or Selkirk Rex Variants from which they breed are of sound temperament, free from any hereditary defects, (including those listed in the GCCF Standard of Points), and conform as closely as possible to the Standard of Points, (excluding the coat description where variants are concerned).

All cats used for outcrossing should be thoroughly researched, of sound temperament and free from any hereditary defects. DNA testing should be used where appropriate to ensure that cats used are free from testable genetic diseases. Pedigrees should be investigated as much as is feasible to ensure that cats used do not descend from ancestors with hereditary diseases for which no DNA test is yet available.

Selkirk Rex are not compatible with Cornish, Devon or LaPerm. Such matings are therefore highly undesirable. The product of such matings will be registered on the Reference Register and cannot be considered to be Selkirk Rex or Selkirk Rex Variants. They cannot be used in any Rex breeding programme and should be placed on the non-active register. It is considered to be in the best interest of the Selkirk Rex breed to keep it entirely separate from other incompatible Rex mutations.

Under no circumstances should any cat with Sphynx ancestry be introduced into the Selkirk Rex breed. Selection for hairlessness contradicts the coat quality requirements for Rex cats. The product of any matings between Sphynx and Selkirk Rex will be registered on the Reference Register. They cannot be considered to be variants nor be used in any Selkirk Rex breeding programme and should be placed on the non-active register.

Breeders shall ensure that any Selkirk Rex or Selkirk Rex Variants from which they breed shall be registered with the GCCF in accordance with the Rules in force at the time. It is recommended that the progeny from any matings that are not required for Selkirk Rex breeding, should be placed on the Non-Active Register, to avoid the introduction of the Selkirk Rex gene into other varieties of pedigree cats.

BREEDING WHITE SELKIRK REX

A small minority of white cats are deaf, and the modifying factors that determine whether a cat is deaf or not cannot be directly controlled in a breeding programme, however by selectively choosing hearing cats

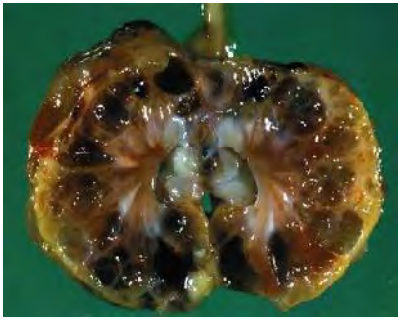
for breeding purposes the natural progression should be to avoid any increase in the incidence of deafness across generations. For this reason all white Selkirk Rex used for breeding are required to take a hearing test, which is necessary to show that the cat is not bilaterally or unilaterally deaf. This should be either a brainstem auditory evoked response (BAER) test or an Otoacoustic Emmission (OAE) test. No white Selkirk Rex kittens can be registered with the GCCF unless a BAER or OAE certificate of freedom from deafness for the white parent(s) is supplied. For identification purposes cats must be micro chipped prior to testing.

Diseases

The Selkirk Rex breed in the UK is not at any particular risk of any genetic diseases which can be tested for, however DNA testing was used in the past to eliminate a form of Polycystic Kidney Disease (PKD) in GCCF registered Selkirk Rex and testing of imports continues to maintain freedom from this disease. PKD is present in both British Shorthairs and Persians, which are used as outcross breeds for the Selkirk Rex so only cats proven to be free of the PKD gene are permitted to be used in outcrossing, in order to avoid the introduction of this gene into the Selkirk gene pool.

As part of the breed progression and recognition in the UK for the Selkirk Rex it was dictated by the foundation breeders that part of the registration policy included the caveat that all Selkirk Rex kittens registered on the Active register must come from PKD free tested parents.

PKD Screening Scheme



A Polycystic Kidney

Autosomal dominant polycystic kidney disease (AD-PKD) is an inherited condition that causes multiple cysts (pockets of fluid) to form in the kidneys. These cysts are present from birth. They start out very small but they grow larger with time and may eventually severely disrupt the kidney; when that happens the kidney can no longer work and kidney failure develops. The cysts usually grow quite slowly, so most affected cats will not show any signs of kidney disease until relatively late in life, typically at around seven or eight years old, or even into older age. However, in some cats kidney failure will occur at a much younger age and at the moment there is no way of predicting how rapidly the disease will progress in any particular cat.

(Registration Policy)

A. Active Register

Selkirk Rex and Selkirk Rex Variants may be registered on the Active Register, at the breeder's request, only if:

1. They have themselves been screened clear of PKF under a recognised scheme where the test is taken independently on a uniquely identified cat (FAB/PKD scheme in the UK). Official confirmation of the screening result is required.
2. They are from parents deemed clear because of the results from the screening of cats (as in A.1) on every line of the pedigree in previous generations. Pedigree line in this case refers to both parents, or all 4 grandparents, 8 great-grandparents, 16 great-great-grandparents and so on, or any combination of the same inclusive of both the sire's and dam's ancestors.

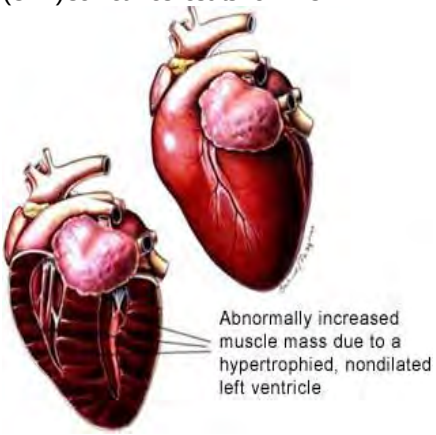
B. Genetic Register

1. Selkirk Rex and Selkirk Rex Variants which are not eligible for registration on the Active Register (because one or more lines of the pedigree have not been screened clear) shall be registered on the Genetic Register, or on the Non-Active Register if so requested by the breeder. Any such cats which are already registered on the Active Register shall be moved to the Genetic Register.
2. Selkirk Rex and Selkirk Rex Variants registered on the Genetic Register may be moved to the Active Register when they have been screened clear of PKD under a recognised scheme (FAB/PKD scheme in the UK). Official confirmation of the screening result is required.
3. Offspring of cats registered on the Genetic Register may only be registered on the Active Register if they have themselves been screened clear of PKD under a recognised scheme (FAB/PKD scheme in the UK). Official confirmation of the screening result is required.

Selkirk Rex breeders should be aware of what testing can be carried out to prevent unwanted disease genes entering the gene pool. It is recommended that cats used for outcrossing should be screened clear of PKD prior to any matings taking place.

HCM (Hypertrophic cardiomyopathy)

HCM disease is a thickening of the heart muscle, and is believed to be largely genetic in origin, with several breeds considered suspect. It is found most often in middle-aged cats, and in males. Although there is no known cure for this condition, with prompt diagnosis and early treatment, cats may live on for years after diagnosis. HCM is often associated with Hyperthyroidism in cats. Congestive Heart Failure (CHF) sometimes results from HCM.



Although HCM is not hugely prevalent in Selkirk Rex, it has been observed in British Shorthairs and Persians, breeds which are used as outcrosses for Selkirk Rex; therefore annual tests are advised through veterinary examination at the time of the annual booster vaccination and through subsequent HCM scanning if the veterinary examination identifies any potential problems. To date there isn't a genetic test for HCM so until this is one developed we can only advise breeders to be responsible and if HCM positive cats are identified in breeding stock that they are no longer used and their progeny checked for any inheritance of the disease.

Blood Typing

Due to the outcrossing permitted in Selkirk Rex breeding blood grouping is becoming an essential part of a breeder's arsenal to ensure viable healthy kittens are born.
There are three feline blood groups: A, B and AB. Group A is the most common, B is quite common in some breeds but is rare in others, and group AB currently appears to be rare in all breeds.
Blood group is determined genetically and the gene for group A is dominant to the gene for group B. This means that a blood group B cat must carry two group B genes (ie, it is homozygous) and can only pass on a B gene to its offspring. A blood group A cat may have two A genes (ie, it may be homozygous), or it may have one A gene and one B gene (ie, it may be heterozygous). A heterozygous cat will pass an A gene to around half of its kittens, and will pass a B gene to the other kittens. This means that if a heterozygous group A stud cat is mated with a group B queen, a proportion of the resulting kittens can be expected to be group A. Blood group AB is inherited independently and the AB gene appears to be dominant to the B gene, but recessive to the A gene.
Type A is generally the most common blood type. Blood type A and B frequencies in domestic short- and longhair cats vary from country to country; some countries have only type A cats, whereas others may have as many as 50 per cent type B cats. Furthermore, blood type frequencies vary between breeds; for example the Siamese and some related breeds have only blood type A, while other breeds may have as many as half and half As and Bs (e.g. Turkish Angora and Van).
When reviewing the average blood group results of the outcross breeds the frequency of Blood Group B is pretty varied.

Only type A	Low type B frequency (1-10%)	Intermediate type B frequency (10-25%)	High type B frequency (>25%)
Siamese	American Shorthair	Abyssinian	**British Shorthair**

Tonkinese	Maine Coon	Birman	Cornish Rex
Oriental Shorthair	Manx	Burmese	Devon Rex
LaPerm	Norwegian Forest	Himalayan	Exotic
	Bengal	**Persian**	Ragdoll
		Scottish Fold	Turkish Van
		Somali	Turkish Angora
		Sphynx	

With this information we can deduct there is lots of room to enable poor blood group matches amongst breeding pairs unless both stud and queen are genetically blood typed for compatibility.

It is recommended that all cats of unknown blood type used within a Selkirk breeding programme should be blood typed using a blood test or a buccal swab as a reliable method of obtaining the cats genetic material.

As with the PKD testing, there are links on the Selkirk Rex website to direct breeders to recommended laboratories both in the UK and overseas. These tests may sound daunting but are proven as a reliable effective way of preventing problems in the future.

As treatment is rarely possible it is much more appropriate to prevent the problem from occurring in the first place. There are a number of practical measures that a breeder can use to do this, as long as he/she knows the blood type of the cats involved.

The recommended method for blood type testing is the DNA test and the blood test for blood type should not normally be used.

DNA testing is less intrusive for the cat and provides more detailed information as it can give the following results:

Type A (homozygous for dominant A)
Type A (heterozygous, i.e. carrying the gene for B)
Type B (homozygous for recessive B)
Type AB (Rare third blood group)
The blood test to determine blood type is the less favourable option of the two because it is more intrusive for the cat and it cannot differentiate between the homozygous and heterozygous forms of Type A blood. Only the DNA test can show if an A type cat carries B or not.

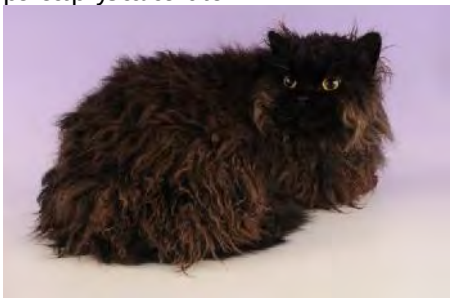
Blood type incompatibility can result in a condition called Neonatal Isoerythrolysis (NI), which results in fading kittens with symptoms such as weakness, jaundice, dark-coloured urine and tissue death, particularly at the extremities, such as the tail. The condition is frequently fatal for the kittens. **NI can occur when a B type female is mated to an A type male.**

NI occurs because kittens whose blood type is incompatible with their mother's can absorb antibodies against their own red blood cells from their mother's milk for several hours after birth. NI can be avoided be only mating together cats of compatible blood types. Experienced breeders with a good reason for carrying out a mating between cats of incompatible blood types can avoid NI by preventing the kittens from suckling during the critical period after birth; during these hours supplementary feeding with kitten formula is required to prevent hunger, distress and dehydration.

Selkirk Rex Type

The Selkirk type standard is listed below and taken from the recognised standard of points. Type is of paramount importance to the breed like any other breed. Due to the variety of outcrosses careful consideration must be made to what type and look of outcrosses are introduced in to any breeding programme as so not to introduce undesirable characteristics. Size, weight and musculature of the Selkirk can be lost very easily if a breeder takes his or her eyes of the ball and breeds purely for curl.

This is a medium to large cat with heavy boning that gives the cat surprising weight and an impression of power. Females may be less massive than males but not dainty in appearance. The coat occurs in both long and short-haired versions. The curliness of the coat is variable due to age, gender, climate, time of year and hormones particularly in the female. The Selkirk Rex has an alert and active personality with a sweet and endearing disposition, and should be in perfect physical condition.



Head - Round, broad and full-cheeked with round underlying bone structure. The head should be set on a short thick neck. Forehead rounded, with a slightly curved top of head.The muzzle is of medium width with well-padded whisker pads giving a rectangular

impression, and is clearly visible beyond the cheeks when viewed in profile. The whiskers are curly or broken.

Nose - The nose should be short, broad and straight with a downward slant. In profile the nose can appear to have a convex curve. The nose break is neither too pronounced nor too shallow.

Chin - Firm and well developed. The bite must be level, the tip of the chin should line up with the tip of the nose in the same vertical plane.

Ears - Medium sized, broad at the base and may be tufted at the tips, set well apart on the broad head. Should fit into (without distorting) the rounded contour of the head. Internal furnishings, if present, are curly.

Eyes - Large, round and well-opened. Set wide apart with no tendency to Oriental
shape nor squint. All eye colours allowed.

Body - Cobby type with a level back and may have a slight rise to the heavy hindquarters.
The muscular torso is more rectangular than square, but not long. The body is equally
broad across the shoulders and the rump, medium to large but not rangy.

Legs & Paws -Legs are of medium length and substantially boned. Paws are round and
firm.

Tail - Thick, medium length, thicker at the base with a rounded tip.

Both Photos show fully mature males , both in longhaired and shorthaired versions.

Breeding for Good Type

Selkirk Rex breeders should make careful consideration before undertaking any mating of the potential outcome of that mating. The potential sire and dam should be assessed and an honest appraisal of their faults, weaknesses and strong points made. Showing cats can help with this as the

comments made in judges' critiques will provide an expert opinion.

Selkirk Rex type is different to both British and Persian type and breeders should select matings whereby the strengths and weaknesses of the two cats can complement each other and offer a chance of kittens with better type.

Outcross matings to British Shorthair can produce cats with smaller ears and less pronounced muzzles than is desirable for ideal Selkirk type, so breeders should select against these traits.

Outcross matings to Persians can produce cats with smaller ears, less pronounced muzzles and shorter noses than is desirable for ideal Selkirk type, so breeders should select against these traits.

The Selkirk Rex Coat

The rexing and curling of the Selkirk Rex is its most characteristic feature, therefore the coat 'is the cat' and great attention should be directed to it whether trying to breed a superior example or exhibiting the breed. Breeders must work to improve several aspects of the coat to improve the curl structure and feel. Kittens are curly at birth and may lose their curl and develop a curly coat again at about 8-10 months of age. The coat continues to develop until about 2 years of age, so the breed standard states that "allowances may be made for less curl on kittens and younger adults especially females".

The coat is thick and dense, with no bare or sparsely covered areas on the body. The coat stands out from the body and should not appear flat or close-lying. It is a random, unstructured coat arranged in loose individual curls giving an overall soft and plush feel. Ideally the entire coat should show the effect of the rex gene, but curliness may be most evident on the neck, belly and tail. Allowance may be made for less curl on kittens and younger adults especially females.

Longhair (SRL): The coat is semi-long, the tail curls are plumy and stand out away from the tail. The ruff hairs are longer and frame the face.

Shorthair (SRS): The coat is a fairly uniform length over the entire body. The ruff and tail fur being a similar length to the rest of the coat, with tail curls that are plush and lie compactly round the tail.


Examples of both coat lengths Left: Longhair Right: Shorthair

The Use of Outcrosses to improve the coat

The long hair gene was carried by the first Selkirk Rex, Miss DePesto and was therefore present from the beginning of the breed. Introducing Persians and Exotics into the Selkirk Rex breeding programme increased the number of cats with the longhair gene. The longhaired coat is generally softer in texture than the shorthair and can be finer in structure. The longhair generally curls with ease and gentle ringlets can

be seen all over the under-body of the cat and trousers. The ruff development in the longhair Selkirks can be its most striking feature.

The British Shorthair by its own standard has a crisper texture to it and therefore doesn't actually curl but rather kinks and waves. The continued use of British Shorthair outcrosses in any one line can be detrimental to a Selkirk coat especially in the more dominant colours as the coat could start to revert to a British texture and evidence of curl lost over most of the body.

The recommendation for a perfect coat is to have a balance of all outcrosses permitted. The British allows for a nice thick short coat when shorthaired kittens are desired, but the introduction of either Exotic and Persian in to a predominantly shorthair breeding programme can add softness to the texture and additional length to the shorthair coat allowing extra room for curling in areas around the trousers and ruff.

Breeding for Colour and Pattern

There are no points awarded to Selkirk Rex for colour and pattern and they are irrelevant for showing purposes. Selection for colour and pattern is normally down to the breeder's personal preference.
Good heath, type and coat should always take precedence in the breeder's decisions over personal preferences for colour and patterns. However, breeders can gain great satisfaction in focusing on one type of colour or pattern and managing their breeding plans to improve the quality of a particular colour or pattern or to develop a newly introduced one in the breed.

The introduction of new colours into any breed can have short term detrimental effects on the breed type. You can see this in the early attempts to bring in the cinnamon colour to the British Shorthair. The breed can be returned to type with perseverance, and several generations after the colour introduction, to gain the physical aspects of the cat to its desired form. The Selkirk Rex type must not be altered to suit a particular colour. This would not be accepted on the show bench or within the standard of points.

Examples of colour range currently seen in the UK Selkirk Rex.


mario mage photography.co.uk

Breed Numbering and Colouring

In 2014 the GCCF adopted the EMS (Easy Mind System) for breed numbering. This simplified system with standardised breed, colour and pattern codes for all breeds was devised in 1990 by Dagny Dickens and Eva Minde and first adopted by FIFe, with other registries following.

EMS codes used by Selkirk Rex breeders are as follows;

SRL Longhaired Selkirk Rex SRS Shorthaired Selkirk Rex

COLOURS

a	blue
b	chocolate
c	lilac
d	red
e	cream
em	apricot
f	black tortie
g	blue tortie
h	chocolate tortie
j	lilac tortie
k	caramel tortie
m	caramel
n	black
o	cinnamon
p	fawn
q	cinnamon tortie
r	fawn tortie
s	silver/smoke
w	white

PATTERNS

WITH WHITE

01	van	
02	harlequin	(high white)
03	bicolour	(used as default for cats "with white" including tortie & white)
09	minimal white	

SHADED & TIPPED

11	shaded
12	tipped

TABBY PATTERNS

21	unspecified tabby	(used for all tabby pointed cats or for cats with 01/02 white where pattern unknown)
22	classic/marble/blotched tabby	
23	mackerel tabby	
24	spotted tabby	
25	ticked tabby	

OTHER PATTERNS

31	Burmese colour restriction
32	Tonkinese colour restriction (Darker Points)
33	Himalayan (pointed)

Examples:

SRL f 22 Tortie Classic Tabby Longhaired Selkirk Rex
SRS as 11 Blue Silver Shaded Shorthaired Selkirk Rex
SRL bw 33 Chocolate Point & White Longhaired Selkirk Rex

N.B. REGISTRATION OF SHADEDS: A shaded cat is an agouti cat and the underlying tabby pattern which may be Spotted, Classic, Mackerel or Ticked, may show clearly on the surface of the coat in kittens but should be less distinct as the lighter under colour extends up the hair shaft with maturity, although the more heavily shaded adults may still show some superficial tabby pattern, particularly on the back and sides. This pattern will be more noticeable in standard shadeds rather than the silver varieties. Cats with a classic pattern may appear darker because the pattern area is greater. Shadeds may show a wide variation in degree of shading, from heavy to light, the latter giving a tipped effect. A heavily shaded cat may show little undercoat on the spine line. The legs, head and tail may show tabby markings of varying clarity depending upon the degree of shading and basic underlying tabby patterning. The stomach may appear spotted. For this reason, Golden Selkirks should be described as "Golden Shaded" and not as "Golden Tabby" or Golden Spotted" etc.

<u>The old breed numbering system</u>

Prior to the adoption of EMS codes Selkirk Rex were given breed codes from the old GCCF system. These breed numbers are still seen on old pedigrees and registrations so people involved with the breed will still need to be able to understand them. Under the old system, the Selkirk Rex breed number was 79,

followed by L for a Longhaired Selkirk Rex or S for a Shorthaired Selkirk Rex. This was followed by a space, then numbers from Series 1, some of which are also followed by additional numbers or letters from Series 2 or series 3.

79L = Longhaired Selkirk Rex 79S = Shorthaired Selkirk Rex

Series 1

14	Blue eyed white
14a	Orange eyed white
14b	Odd eyed white
14c	Green eyed white
15	Black*
16	Blue
17	Cream
18	Silver tabby (classic pattern)*
19	Red tabby (classic pattern)
20	Brown tabby (black) (classic pattern)*
21	Tortoiseshell (black)*
22	Tortie and White*
28	Blue-Cream/Blue tortie
30	Spotted*
31	Bi-colour*
31w	Bi-colour more white than colour*
36	Smoke*
39	Tipped*
40	Colour Pointed/Siamese coat pattern**
43	Shaded (as in Orientals)*
44	Mackerel tabby*
45	Ticked tabby*
73	Pewter
74	Golden
75	Silver Shaded*

NB: * = uses series 2 ** = uses series 3

Series 2

a	blue
b	chocolate
c	lilac
d	red
e	tortie
f	cream
g	blue-cream/blue tortie

h	chocolate tortie
j	lilac-cream/lilac tortie
k	cinnamon
m	cinnamon tortie
n	caramel
fn	apricot
p	caramel tortie
r	fawn
y	fawn tortie
s	silver/smoke

Letters excluded from the above list denote the following:

q Burmese colour restriction. (NB Burmese Colour Restriction can also be expressed with the number 27, which is used like a series 1 number and without the addition of the letter q)
t tabby
v variant
w and white
x The Burmese/Siamese coat pattern when occurring in cats other than the Tonkinese breed and described officially as "Darker Points", used with the number 27

Series 3

1	Black/Brown/Seal
2	Blue
3	Chocolate
4	Lilac
5	Red
6	Tortie
7	Cream
8	Blue-Cream/Blue Tortie
9	Chocolate Tortie
10	Lilac-Cream/Lilac Tortie
11	Seal Tabby
12	Blue Tabby
13	Chocolate Tabby
14	Lilac Tabby
15	Red Tabby
16	Tortie Tabby
17	Cream Tabby
18	Blue-Cream/Blue Tortie Tabby
19	Chocolate Tortie Tabby
20	Lilac-Cream/Lilac Tortie Tabby
21	Cinnamon

22	Cinnamon Tortie
23	Cinnamon Tabby
24	Cinnamon Tortie Tabby
25	Caramel
26	Caramel Tortie
27	Caramel Tabby
28	Caramel Tortie Tabby
29	Fawn
30	Fawn Tabby
31	Fawn Tortie
32	Fawn Tortie Tabby
33	Apricot
34	Apricot Tabby

EVALUATING KITTENS FOR BREEDING

Breeders should make rational decisions on which kittens to retain for future breeding, or allow on the active register, based on a range of different factors. Animal breeding scientists use evaluation systems to calculate Estimated Breeding Values, or EBVs for animals. Cat breeders can use similar methods in a less formal way in order to evaluate kittens and make comparisons which can help to inform decisions.

There is a risk that breeders will make selections based on too limited a range of factors. The following should be taken into consideration;

- Closeness to the standard of points
- Number and severity of faults
- Temperament
- Health
- Development
- Co-efficient of Inbreeding
- Generational Level
- Parental/familial breeding history
- Fit with breeder's breeding goals
- Breeder's intuition

Breeding evaluation scoresheets are available from the BAC for breeders to use to make assessments of their kittens. (See appendix 2)

MENTORING

All new Selkirk Rex breeders should start under the guidance of a mentor, who is an experienced breeder and has already bred a number of litters of Selkirk Rex cats. This is especially important for novice breeders with little or no prior experience of cat breeding, but support should also be available to breeders who may have experience of other breeds but are new to the Selkirk Rex breed. If a new breeder does not have a mentoring relationship with the breeder of their cat a mentor will be identified through one of the clubs represented on the Selkirk Rex BAC.

All breeders are strongly recommended to participate in ongoing education and development about cat breeding through participation in appropriate discussion forums, seminars and cat clubs.

BAC RECOMMENDATIONS

The BAC recommends that breeders re-read this breeding policy, as well as the general GCCF Breeding Policy, the Selkirk Rex Registration Policy, the Selkirk Rex Standard of Points on a regular basis.

Breeders will be encouraged to take advantage of any relevant official scheme, which may be devised by the BAC to test the soundness of the Selkirk Rex breed.

It is recommended where the colour of a cat is in question a DNA test, (where such a test exists), be arranged.

Selkirk Rex breeders are encouraged to work closely with other like-minded breeders to improve the Selkirk Rex breed whilst maintaining a diverse gene pool.

The BAC would also advise breeders that by importing a Selkirk Rex from another registry there is a possibility that the pedigree may be the result of a non-GCCF approved outcrossing programme. If you are considering doing this then contact the Selkirk Rex BAC for advice and guidance.

The BAC further recommends that any breeder wishing to import any Selkirk Rex onto the GCCF register (either from overseas or from another registry within the UK), obtains a copy of the pedigree and forwards this to the BAC for checking before agreeing to purchase the cat/kitten if they are in any doubt about whether it complies with the current registration policy.

Please note that any cat or kitten found to not confirm to the GCCF Selkirk Rex Registration policy may, together with any registered progeny, be transferred to the GCCF Reference Register with no progression.

Breeders are urged to observe the GCCF Code of Ethics and the recommendations of the GCCF, and the advice of their own veterinary surgeons regarding cat welfare, the importance of neutering, health, inoculations etc.

The BAC recommends that breeders should think carefully before selling any Selkirk Rex cats or kittens on the active register, taking into consideration the purchaser's experience, and that no kitten should be sold on the active register to a breeder new to the breed without ensuring that a mentoring relationship is in place, either with the breeder of the kitten or another suitably experienced breeder.

For further reading on cat genetics and breeding practices breeders are advised to refer to:
"Robinson's Genetics for Cat Breeders & Veterinarians" by Vella, Shelton, McGonagle and Stanglein, published byButterworth & Heinemann.

APPENDIX 1
COLOUR AND PATTERN GENES IN SPHYNX AND REX BREEDS

The Sphynx and Rex breeds have no restrictions on acceptable colours, patterns or combinations so a very large number of variations is possible. These variations are controlled by a wide and varied group of both dominant and recessive genes; consequently one cannot fully understand colour and pattern inheritance in Sphynx cats without a basic understanding cat genetics. The lack of coat can change the appearance of colour and pattern, making it sometimes difficult to accurately identify. Although no points are awarded for colour and pattern, breeders may wish to ensure that they register cats correctly and DNA testing can be used for clarification.

All domestic cats are descended from a wild ancestor (probably either Felis silvestris or Felis lybica) a mackerel tabby patterned animal, and thus all domestic cats are of an underlying genetic tabby pattern. All cats have 19 pairs of chromosomes upon which there are many thousands of genes that govern the eventual shape, size, sex, colour, pattern and hair length of the individual animal. Over the generations a number of mutations have occurred and selective breeding has been used to isolate these to produce the various pedigree breeds we see today.

Gene normally come in pairs. Different variations of a gene are called alleles and a pair can either contain two alleles the same (homozygous) or two different alleles (heterozygous). When a heterozygous gene pair occurs it is the dominant allele which determines the cat's appearance. The recessive allele can be passed on to the cat's offspring. Dominant alleles are written with a capital letter and recessive alleles are written with a lower case letter.

Key genes influencing colours, coat length and patterns are:

A/a Agouti or Non-agouti

Agouti (A) - the natural "wild" gene that is the basis of the tabby cat. The base agouti pattern is bands of black on a yellow background; in the cat this is overlaid with one of the tabby patterns.

Non- agouti or "hypermelanistic" (a) - a recessive gene mutation that turns the original "wild" tabby cat into a self by overlaying the agouti base colour with eumelanin pigment, making the whole animal appear one solid colour, although often in certain light the underlying tabby pattern may still just be discernible.

Mc/mc Mackerel or Classic Tabby

Mackerel (Mc) – the basic striped tabby pattern that overlays the agouti base (i.e. "wild" form)

Classic (mc) – a mutation of the mackerel allele recessive to all other tabby patterns which gives a blotched pattern with the characteristic "butterfly" motif across the shoulders and "oysters" on flanks.

Sp/spSpotted or Non-spotted

Spotted (Sp) – this gene causes the spotted tabby pattern, breaking up the mackerel or classic pattern into elongated or rounder spots respectively.

T/t Ticked or Non-ticked

Ticked (T) – an incompletely dominant gene which removes most of the stripe pattern leaving the ticked agouti base pattern on the body with minimal overlaying stripes on legs, chest (necklace) and face. A ticked tabby pattern can cover all three other tabby patterns.

Wide-banding (Wb) – this has been hypothesized either as a gene (Robinson) or more probably a group of genes (Joan Wasselhuber, who coined the term "wide-banding genes"): Widebanding works on any variety of tabby cat creating a wide band of paler base colour pigment at the base of the hairs and pushing the darker top colour to the tips of the hairs. This creates a cat which is shaded or tipped. With the addition of the inhibitor gene the cat is silver shaded.

I/i Inhibitor or Non-inhibitor

Inhibitor (I) – a dominant gene that suppresses the development of pigment in the hair of the coat, typically producing hairs that are fully coloured only at the tip and have a silvery white base. It has greater effect on the lighter pigment in an agouti cat, removing the yellow colour and turning the base colour white or "silver". In the case of a non-agouti cat the inhibitor removes colour from the base of the hair-shaft to produce a silvery white hair with a coloured tip, i.e. a Smoke. This allele appears to interact with other genes to produce various degrees of tipping, ranging from deeply tipped silver tabby to lightly tipped silver shaded tabby.

L/l Short hair or Long Hair

Short hair (L)- the dominant 'wild form; of this gene, which produces a short coat.

Long-hair (l) – a recessive gene mutation which produces a semi-long haired cat.

The long hair gene is present in the Sphynx gene pool, but is overridden by the Sphynx gene. Some Sphynx Variants are long haired.

B/b/b1 Black or Chocolate or Cinnamon

Black (B), Chocolate (b) and Cinnamon (b1) – three different alleles of this gene occur. Chocolate and cinnamon are both mutations of the basic black gene which modify black into dark brown or medium brown respectively.

O/o (O/y) Orange or Non-orange

Orange (O) – this gene eliminates all eumelanin pigment (black and brown) from the hair fibres, replacing it with phaenomelanin, a lighter compound appearing yellow or orange depending on the density of pigment granules. The O allele is also epistatic over the non agouti genotype; that is, the agouti to non-agouti mutation does not have a discernible effect on red or cream coloured cats, resulting in these self-coloured cats displaying tabby striping independent of their genotype at this locus. This explains why you can usually see some tabby pattern on red, cream and apricot coloured non-agouti cats, even if only on the head/face. Rufus polygenes, as yet unidentified, affect the richness of the orange gene's expression.

The sex-linked nature of this gene means that it is inherited on the XY chromosomes which determine gender. Males with one copy of the gene will be orange, while females with one copy will be torties and need two copies to be orange.

D/d Non-dilue or Dilute

Dilute (d) – a recessive gene which reduces and spreads out the pigment granules along the hair-shaft and turns a black to blue, chocolate to lilac, cinnamon to fawn and red to cream.

Dm/dm Dilute Modifier or Non-dilute Modifier

Dilute modifier (Dm) – a dominant gene which serves to modify the action of the dilute gene (it has no effect on undiluted colours), it lightens and "caramelizes" the colour turning blue into brownish-grey, lilac and fawn into pale taupe (in all three cases known as Caramel) and cream into a warmer pinkish-cream tone (Apricot)

Albino Series (C, cb, cs)

Full Colour (C) – the 'wild form' with no reduction of pigment

Colourpoint (cs) – this recessive allele produces cats with the colourpoint or Siamese pattern. The pigment in the coat is reduced and because it is thermo-sensitive it is only produced in the coldest parts of the body, or points.

Burmese Colour Restriction (cb) – this recessive allele produces cats with Burmese colour restriction. This is thermo-sensitive, like the colourpoint allele, but the reduction in pigment is not as pronounced, so there is pigment all over the body, but with a slight darkening at the points. The reduction in pigment changes the cat's colour, causing a genetically black cat to turn sepia brown, a red cat to turn pale tangerine etc.

Combinations

A gene pair only has two alleles, while multiple alleles of this gene exist. Any individual cat can only have two of these at once. A heterozygous, full colour cat can carry either the alleles for colourpoint or the allele for Burmese colour restriction, but never both.

If a cat's gene pair consists of one colourpoint allele and one Burmese colour restriction allele then the alleles are co-dominant and the result is an intermediate form called **Darker Points,** where the reduction in pigment on the body is more pronounced than on a cat with Burmese colour restriction and less pronounced than on a colourpoint cat.

S/s White Spotted or Non-white Spotted

White Spotted (S) – this dominant allele causes the white patches on a bicolour cat. It is an incomplete dominant gene so cats which are homozygous for the allele (i.e. have two copies) have a more extreme version, referred to as 'van pattern', where white covers most of the body.

W/w White of Non-white

White (W) – this dominant allele causes cats to be solid white. Occasionally white cats (especially, but not exclusively those with blue eyes) may be deaf in one or both ears. Only cats with full hearing can be used for breeding.

Polygenes – these are collections of genes which modify the effect of the main dominant and recessive genes above. A build up of polygenes creates a bigger effect, for example a collection of certain polygenes increases the length and density of the long-hair gene to create the Persian, and a build-up of polygenes serves to enhance the effect of the main colour genes, turning the effect of the orange gene from the sandy colour of the ginger domestic tom to the rich vibrant red of the Red Persian, British or Asian Self. It is likely that a group of polygenes is the reason for variation in the degree of tipping in the Shaded Tabby/Burmilla, the polygenes working to create the band-width in interaction with the inhibitor

gene (when present) resulting in the range of pattern from tipped to heavily shaded.

So, in summary, the genetics involved in the ideal tabby, shaded or smoke cat are complex. Not only are there many interacting genes, but genes sometimes do not express themselves fully, or conflict with one another. For example, the melanin inhibitor sometimes does a poor job blocking pigment, resulting in an excessively gray undercoat, or in tarnishing. Likewise, poorly-expressed non-agouti or over-expression of melanin inhibitor will cause a pale, washed out black smoke. Various polygenes, epigenetic factors, or modifier genes, as yet unidentified, are believed to result in different phenotypes of colouration, some deemed more desirable than others.

APPENDIX 2
BREEDING EVALUATION

Estimated Breeding Values or EBVs are used by animal breeders taking a scientific approach to ensure the best outcomes from breeding animals. Farmers and livestock breeders normally used EBVs to help them breed the best animals they can. Cats breeders can use an equivalent, albeit less formal, process to evaluate and compare kittens for breeding potential. Breeders should not only use type in order to make these decisions, but should take into account a range of other factors.

EBVs test how useful an individual animal would be for breeding by scoring it according to certain key criteria. It can be used as a selection tool by breeders selecting breeding animals for the next generation. Although normally used on young animals, adults cab be evaluated or re-evaluated at any time.

EBVs should only be used by the breeder to inform their own decisions. It is a partly subjective measure so can't be used to compare scores between different breeders who may interpret the scoring slightly differently. There are no official scores.

Scoring should be as accurate as you can make it, but reasonable estimates can be made if all of the details are not know or not remembered.

SCORING

SOP point score

An honest appraisal by the breeder or cat show judge or other person well acquainted with the breed of how well the cat meets the standard of points for that breed. Although this is partly subjective, an analysis of the cat can be made with a points based score given to each section as broken down in the SOP with a total out of 100 calculated. Although scores may come out slightly differently depending on who is doing them if one person scores a whole litter it will show which kittens they feel most closely meet the SOP. Ideally two or more people should score the kittens.

Score out of 100 **_____**

Faults

Points should be removed for any faults listed on the SOP or in the standard list of withholding faults.

Do not remove points for variants accepted for breeding, e.g. straight coat in rex breeds.

Remove 25 points for a withholding fault and 10 points for other faults.

Points to subtract from score _____

Temperament score

1. Reaction to unfamiliar situations, such as trips out of the home, for example to the vet.
2. Boldness, confidence and reaction to loud noises, such as vacuum cleaners or loud music.
3. How often does the kitten approach the breeder/owner for affectionate interaction, e.g. to sit on lap, be stroked, cuddled?
4. Reaction to being picked up and held (does the kitten relax or struggle?)
5. Eagerness to engage in play

Mark each of the above categories out of 10

Score out of 50 _____

Health score

Has the kitten had any health problems?

Serious health problems, such as recurring, difficult-to-treat infections, surgical interventions, visual or auditory problems etc.
score 0

Moderate health problems, such as successfully treated URIs, diarrhoea, anorexia etc
Score between 1 and 24

Minor health problems only, such as short-lived digestive upsets, minor injuries etc.
Score between 25 and 49

No health problems score 50

Score out of 50 _____

Development score

Has the kitten's development been normal in all areas?
When did the kitten open its eyes?
When did the kitten start coming out of the nest box?
When did kitten start to eat solids?
When did kitten stop suckling?
When did kitten start trying to use litter tray?
When did kitten become fully litter trained?
Has the kitten had a steady growth rate?

Score out of 25 _____

Co-efficient of Inbreeding

The COI should be calculated on as many generations as possible, preferably back to foundation.

Over 25% score 0
20 to 25% score 10
10 to 20% score 15
0 to 10 % score 25

Score out of 25 _____

Generational level

Kittens with like to like breeding in their pedigrees should produce more consistent outcomes with lower risk of undesirable atavistic type.

1. The kitten has non-approved outcross breeds within the first three generations of its pedigree (i.e. parent, grandparent and great grandparent.)

   Score 0
2. The kitten has approved outcross breeds within the first three generations of its pedigree

   Score 10
3. The kitten has only cats of its own breed (including variants) within the first three generations of its pedigree

   Score 25

Score out of 25 _____

Parental Breeding History

How many kittens were in the litter that the kitten was part of?
Where there any congenital health problems in any of the litter siblings?
Did any of the litter siblings suffer from subsequent health problems?
Has the kitten's mother had any breeding failures, such as failure to conceive after mating, Caesarian sections, still births etc?
Has the sire produced kittens with congenital abnormalities with a significant number of other queens?
Does the kittens have any parents or grandparents with notable success in breeding or showing?

Score out of 25 _____

Breeding goals & X factor

How much would the kitten contribute towards the goals of the breeder's breeding programme? For example does it display a trait, such as colour, pattern etc, or carry a gene for a trait that the breeder aims to work with?
Does the breeder feel a particular affinity or have an instinct about the kitten?

Score out of 25 _____

Total score out of 300 _____

Divide by 3 for percentage value _____%