

Summary of Kennel Club Breed Records: French Bulldog 2021

Standard Only

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Methods

Information on French bulldog litters registered by the Kennel Club in 2021 was retrieved from the utility group breed record supplements AX1 – AX4. This included information on the sire and dam of the litter, the date of birth of the litter, the number and colour of the registered puppies, any Caesarean section information (elective or emergency), artificial insemination information, and Kennel Club Assured Breeder (KCAB) information.

Further information was gathered from the Kennel Club database, including: the sex of the puppies, the date of birth of the sire and dam, the grandparents of the litter, the registered coat colour of the parents and grandparents, the coefficient of inbreeding for the litter, the litter count for each parent, date of the first litter for each parent, Hyperuricosuria (HUU) / Hereditary Cataracts (HC-HSF4) / Degenerative Myelopathy (DM) DNA testing, Respiratory Function Grading (RFG) testing & eye testing results for the parents. Only RFG results dated prior to the birth of the litter were included.

This document only includes information on standard litters, defined as follows:

- Litter consists of only standard puppies,
- Both parents of the litter are a standard,
- All grandparents of the litter are a standard.

Some dogs are registered under an incorrect colour or type – either as a standard when they should be non-standard, or vice versa. These were identified by looking at the results of a Google search using the search phrase: “<Registered Name>” French Bulldog’. Where there was evidence of this, the corrected type has been used. Non-standard dogs include ‘fluffy’ Frenchies where identified.

Additional health testing results were also retrieved from the results of this search where available. These are listed in Appendix I.

Parents results from the French Bulldog Health Scheme were retrieved from the council’s website: <https://www.thefrenchbulldogclubofengland.com/health-scheme--survey-results.html>. Only health scheme results dated prior to the birth of the litter were included.

Data summarisation was carried out using Microsoft Excel and RStudio.

Litter Summary

386 standard French bulldog litters were registered with the KC in 2021, consisting of 1,646 puppies. 49.1% (809) were dogs and 50.9% (838) were bitches.

The most common puppy coat colour was Red & White (65.0%). *Figure 1* shows the breakdown of puppy coat colours in these litters.

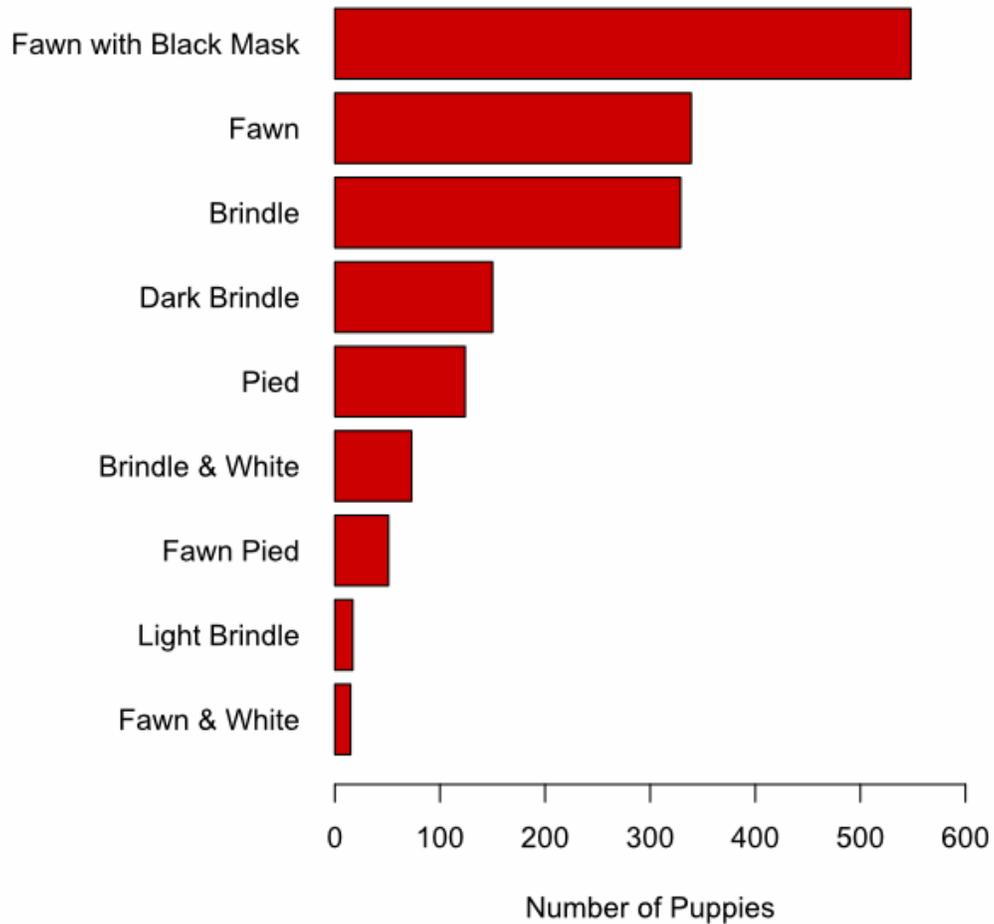


Figure 1. Coat colour of puppies from standard litters (n=386)

Litter Size

The mean number of puppies in standard litters was 4.3, whilst the median was 4. The distribution of puppy numbers per litter is shown in *Figure 2*.

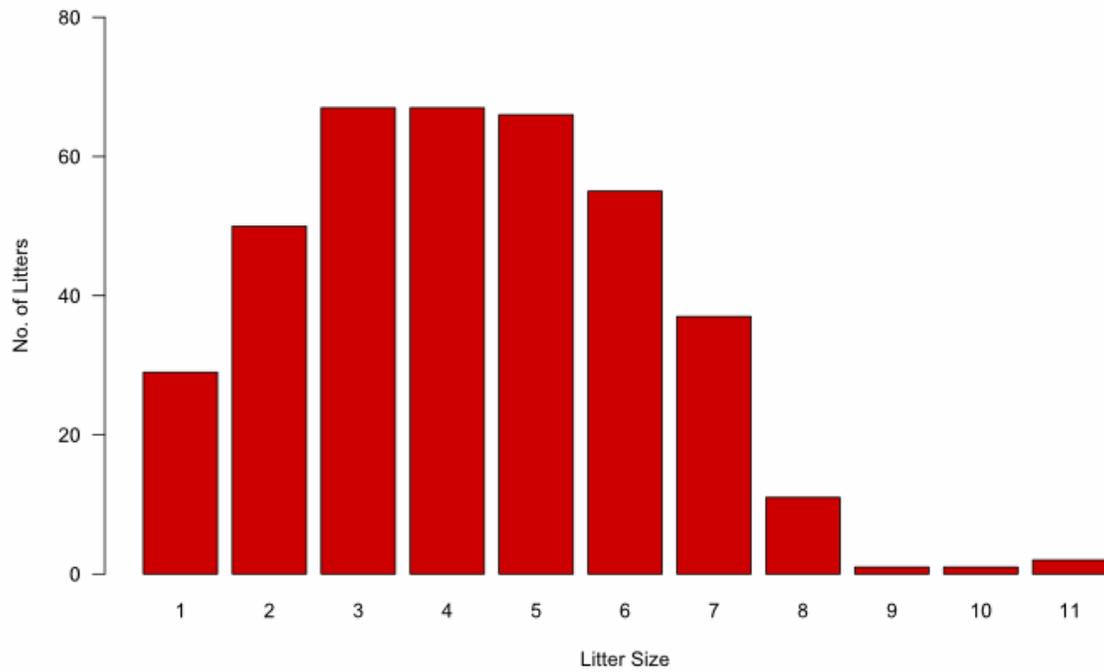


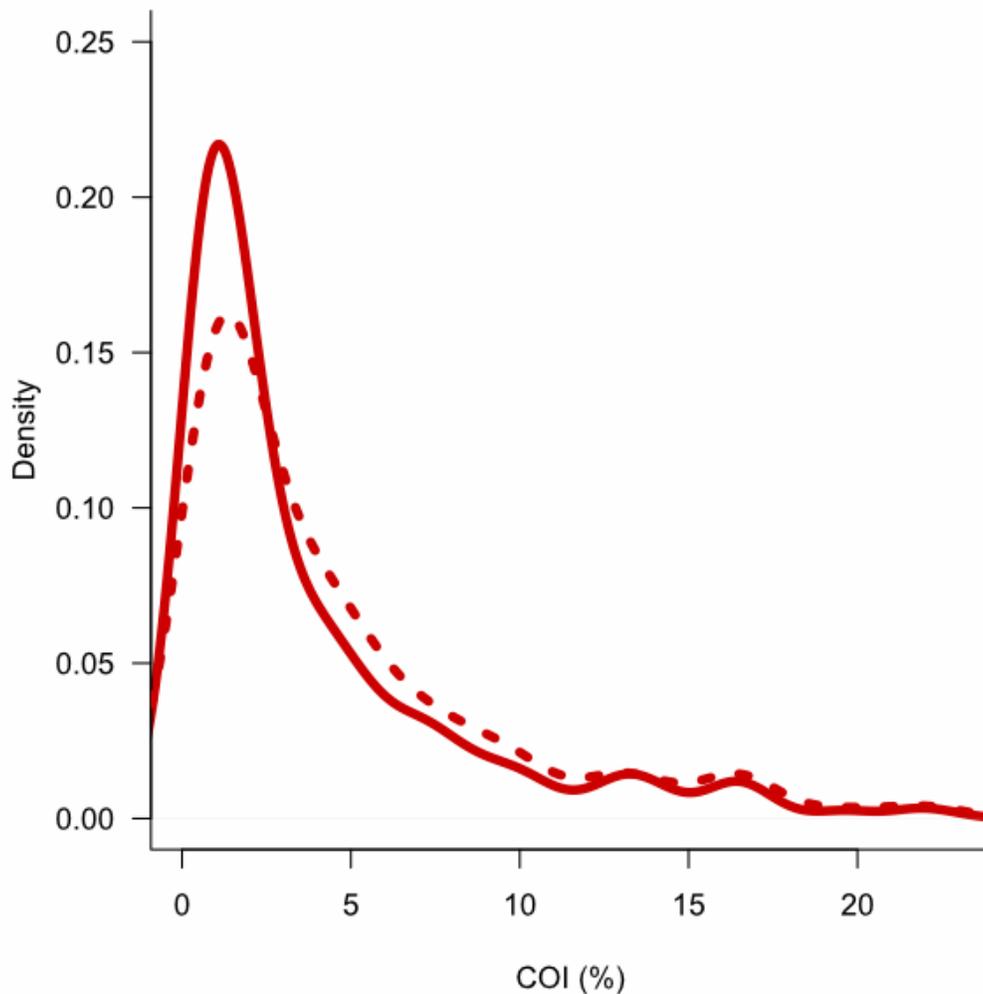
Figure 2. Litter size of standard litters (n=386)

Coefficient of Inbreeding

The coefficient of inbreeding (COI) is a measure of estimated inbreeding, expressed as a percentage probability of the same variation being inherited from the sire and the dam. A lower percentage indicates a lower estimated level of inbreeding.

The Kennel Club calculates the COI for each dog using all generations in their database.

The mean COI for these litters was 3.8% and the median COI was 2.0%. The median number of complete generations in this calculation was 5 (range 2 – 8), with at least part of the pedigree extending back a median of 26 generations (range 22 – 32). The solid line in *Figure 3* shows the distribution of COI percentages for these litters.



*Figure 3. Distribution of COI percentages for standard litters
solid line = all litters (n=386); dotted line = litters with no imported parents (n=273)*

The highest recorded COI was 22.6%, no 13 litters were recorded with a COI over 25% (the equivalent of a parent/child or brother/sister mating). 312 (80.8%) litters had a calculated COI under 6.5%.

One limitation of the COI calculation is that a reduced number of available generations in a pedigree decreases how informative the calculation may be. For imported dogs, the Kennel Club database may only contain three generations.

Removing litters with one or more imported parents, the mean COI for these litters was 4.6% and the median COI was 2.8%. The median number of complete generations in this calculation was 6 (range 4 – 8), with at least part of the pedigree extending back a median of 26 generations (range 22 – 32). The dotted line in *Figure 3* shows the distribution of COI percentages for these litters.

Caesarean Sections & AI

47.9% of these litters were delivered by a reported Caesarean section (C-section). Of those litters where natural birth is presumed to have been attempted (i.e. excluding elective C-sections), 37.6% of litters were reported to be delivered by emergency C-section.

Figure 4 shows the proportion of litters reported to have been delivered by C-sections.

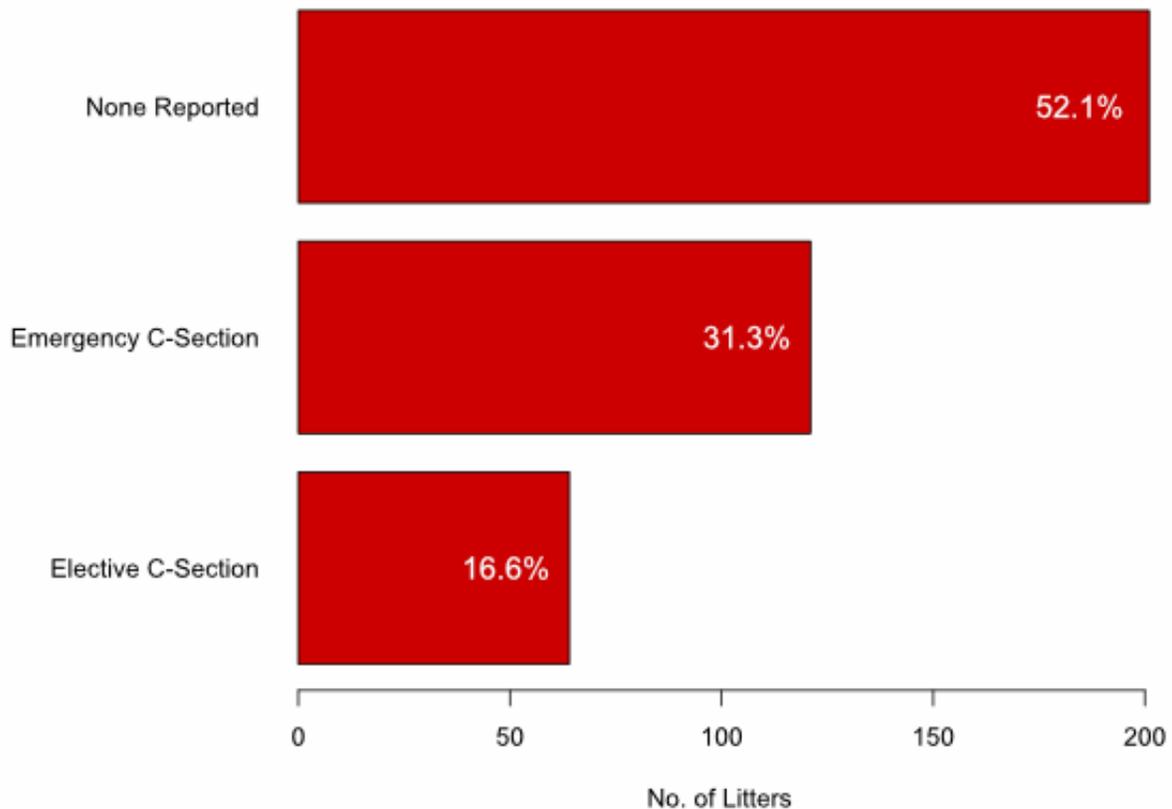


Figure 4. Reported Caesarean section information for standard litters (n=386)

Two litters were reported to have been conceived by artificial insemination (AI).

Parents

The 386 standard French bulldog litters were produced by 201 different sires and 378 different dams. This is a ratio of ~1.9 dams for every sire.

40 of the sires are imports from other countries, whilst 38 of the dams are the same (*Table 1*).

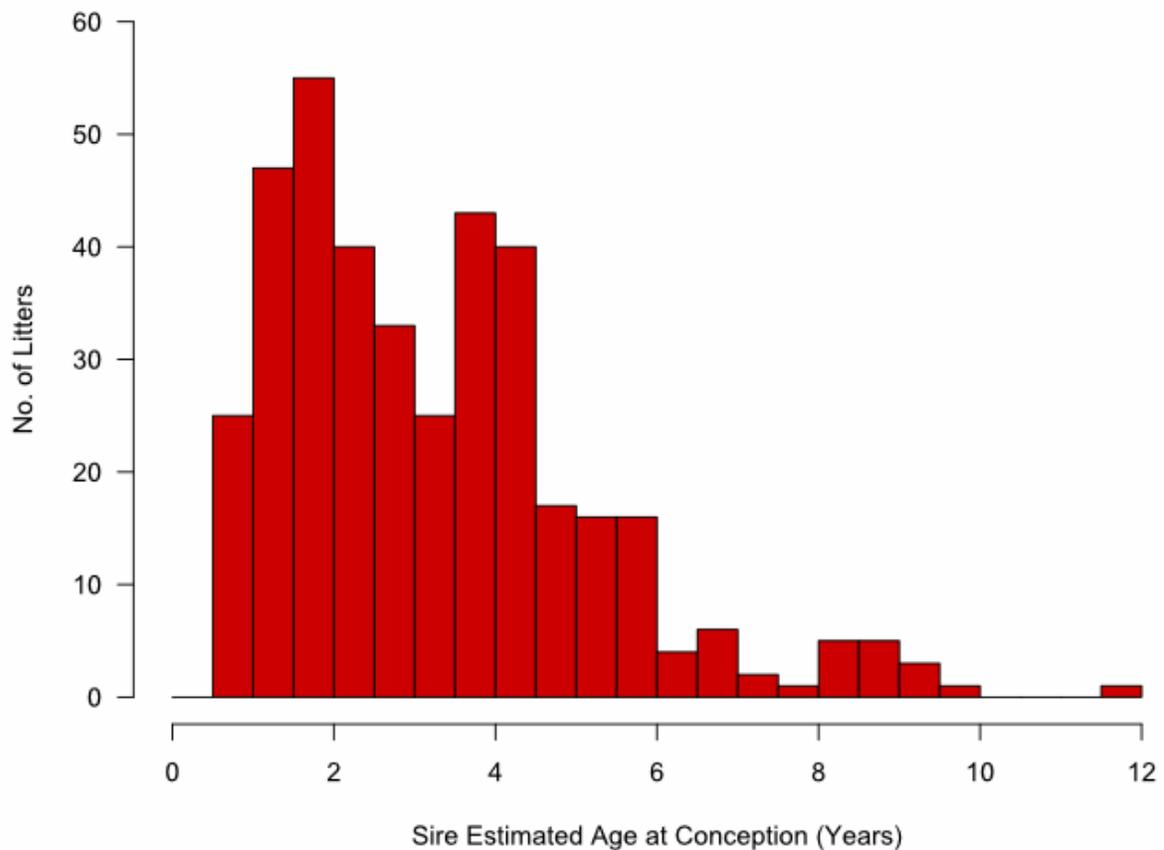
Table 1. Origin of foreign and imported parents of standard litters

Country of Origin	No. of Sires	No. of Dams
Belarus	0	2
Brazil	3	1
Croatia	1	0
Czechia	1	1
Denmark	1	2
France	1	0
Hungary	7	5
Ireland	0	1
Latvia	1	0
Lithuania	0	3
Montenegro	0	1
Poland	6	13
Portugal	1	1
Romania	1	0
Russia	3	4
Serbia	7	1
South Korea	1	0
Spain	4	2
Ukraine	1	1
Unknown	1	0

Sire Age

The mean age of sires at the birth of these litters was 3.42 years, whilst the median age was 3.07 years. The maximum age of sire at birth of a litter was 11.73 years, whilst the minimum was 0.79 years.

Assuming a gestation time of approximately 60 days (or 0.17 years), the predicted mean age of sires at conception of the litter is 3.25 years, whilst the median age is 2.90 years. Under the same assumption, 127 litters (32.3%) are predicted to have been conceived when the sire was under 2 years of age. *Figure 5* shows the distribution of the estimated age of sires at the conception of the litters.



*Figure 5. Estimated sire age at conception of standard litters (n=386)
estimated age at conception = age at birth of litter – 0.17*

51 litters were registered from first-time sires, excluding foreign dogs and imports as they are more likely to have sired a litter abroad, potentially prior to any Kennel Club registered litter. Assuming a gestation time of approximately 60 days (or 0.17 years), the predicted mean age of first-time sires at conception of the litter was 2.06 years, whilst the median age was 1.52 years. The maximum age of sire at estimated conception of a litter was 6.41 years, whilst the minimum was 0.7 years.

Figure 6 shows the distribution of the estimated age of first-time sires at the conception of the litters.

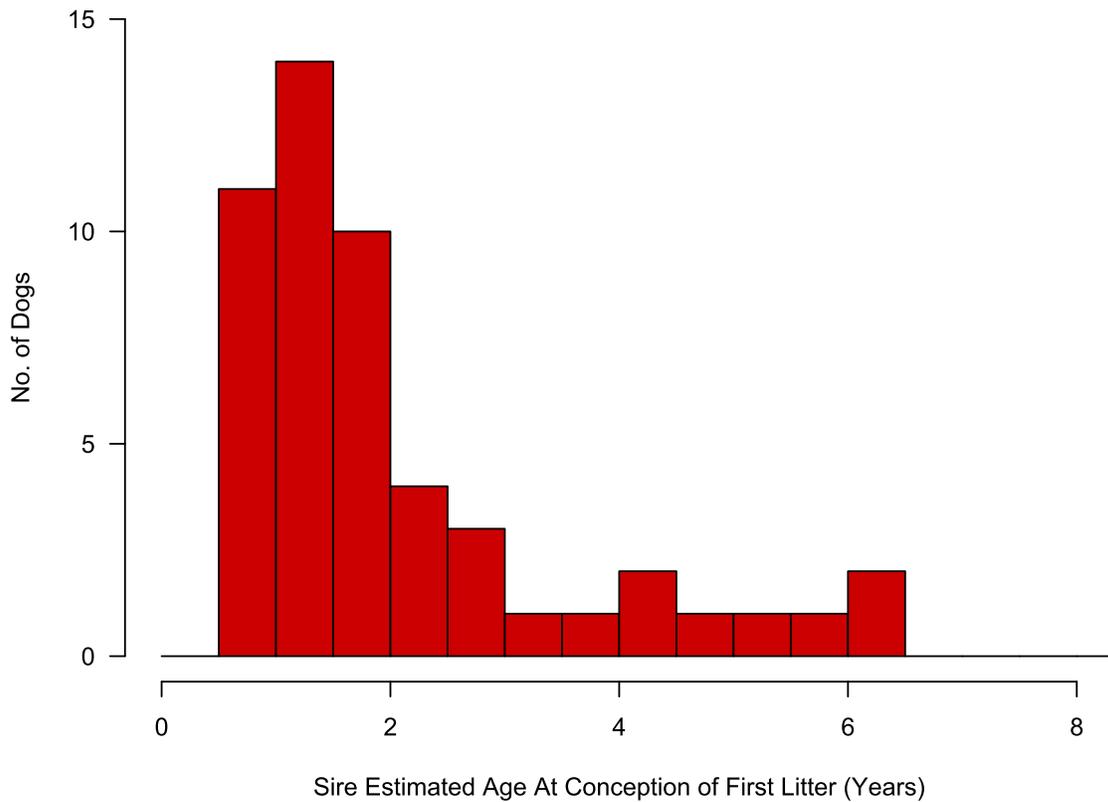
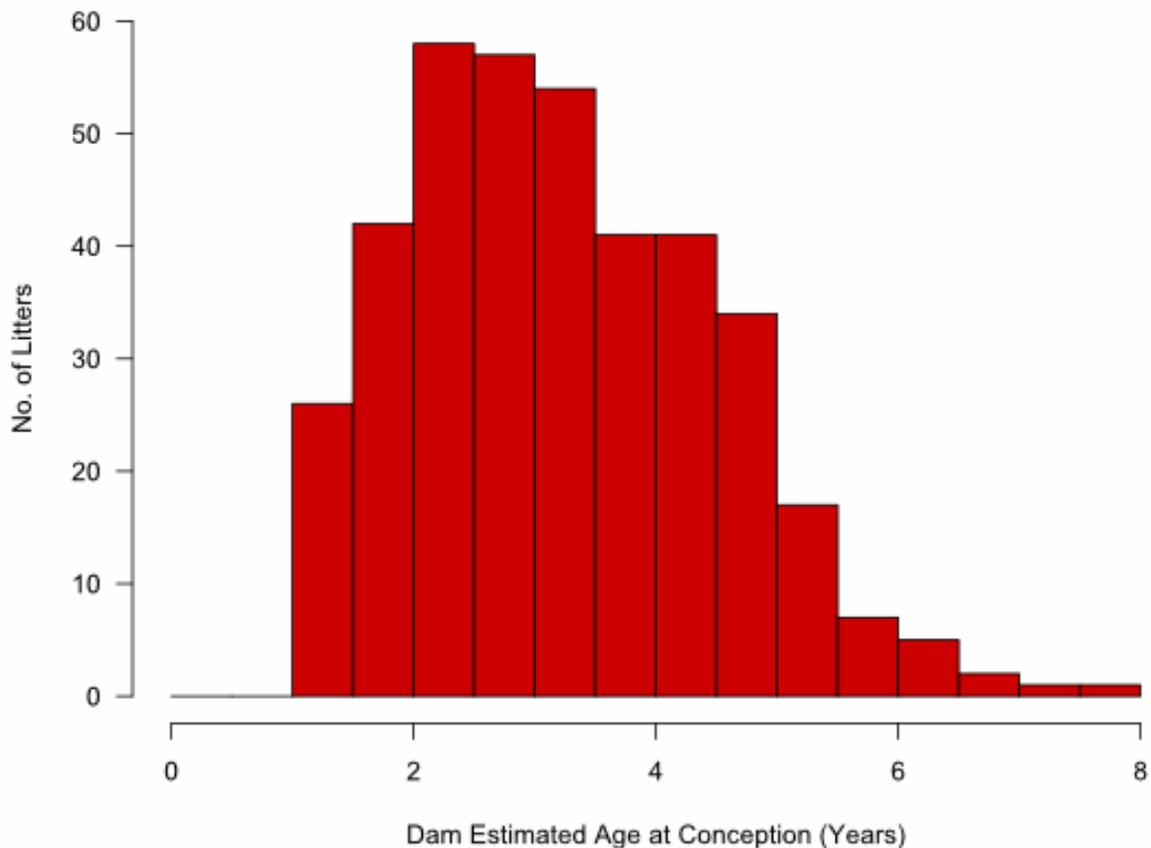


Figure 6. Estimated age at time of conception of first-time sires of standard litters, excluding foreign dogs (n=51); estimated age at conception = age at birth of litter – 0.17

Dam Age

The mean age of dams at the birth of these litters was 3.41 years, whilst the median age was 3.25 years. The maximum age of dam at birth of a litter was 7.69 years, whilst the minimum was 1.21 years.

Assuming a gestation time of approximately 60 days (or 0.17 years), the predicted mean age of dams at conception of the litter is 3.24 years, whilst the median age is 3.08 years. Under the same assumption, 68 litters (18%) are predicted to have been conceived when the dam was under 2 years of age. *Figure 7* shows the distribution of the estimated age of dams at the conception of the litters.



*Figure 7. Estimated dam age at conception of standard litters (n=386)
estimated age at conception = age at birth of litter – 0.17*

209 litters were registered from first-time dams, excluding foreign dogs and imports as they are more likely to have birthed a litter abroad. Assuming a gestation time of approximately 60 days (or 0.17 years), the predicted mean age of first-time dams at conception of the litter was 2.78 years, whilst the median age was 2.61 years. The maximum age of dams at estimated conception of a litter was 6.92 years, whilst the minimum was 1.03 years.

Figure 8 shows the distribution of the estimated age of first-time dams at the conception of the litters.

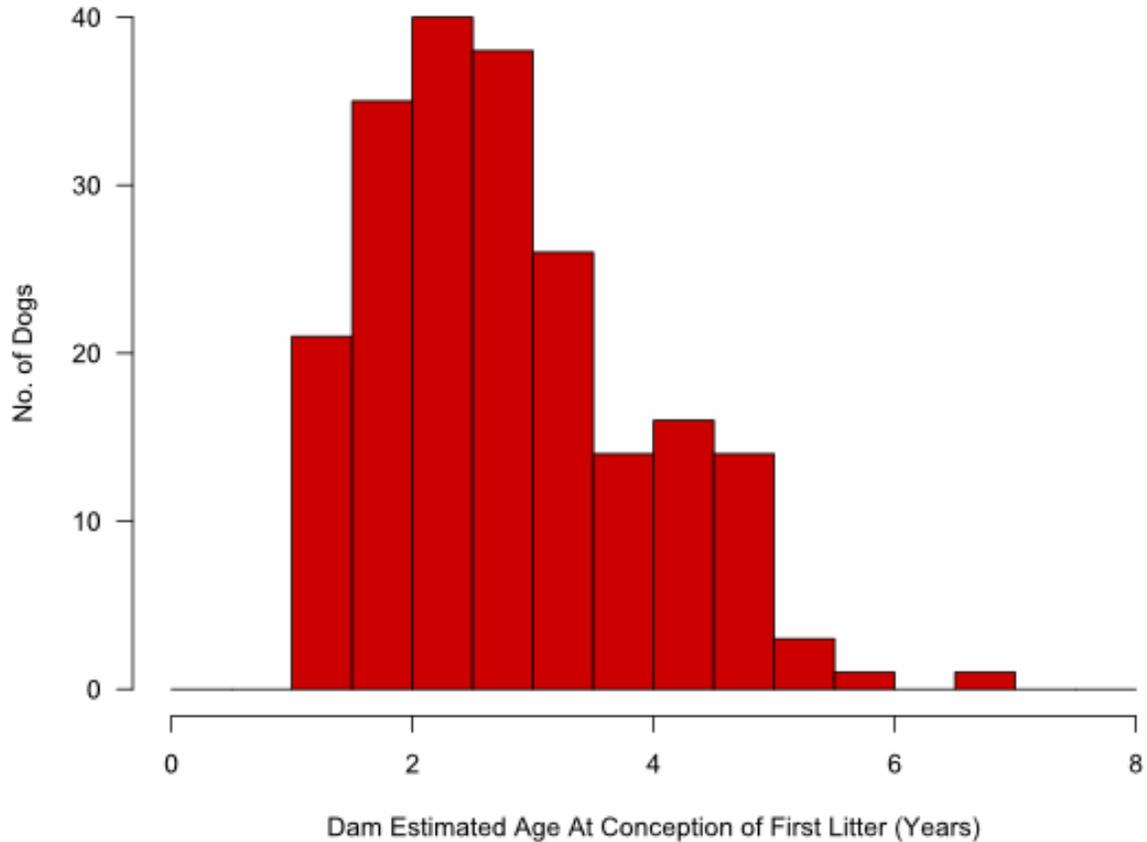


Figure 8. Estimated age at time of conception of first-time dams of standard litters, excluding foreign dogs (n=209); estimated age at conception = age at birth of litter – 0.17

Popular Sires

Table 2 lists classified standard sires with ten or more litters registered in 2021. As with this whole document, sires may be non-standard where no evidence could be found for non-standard colours or coat types within the generations investigated. Those with potential non-standard evidence outside these generations are marked with an asterisk. The total litter count may include litters classified as non-standard.

Table 2. Classified standard sires with 10 or more litters registered in 2021. Includes Health Scheme and Respiratory Function Grading (RFG) scheme dated before the end of 2021.

Registered Name	No. 2021 Litters	Health Scheme	RFG
The Only Super Ted	27	N/A	N/A
Gold Sierra Copper Bull	16	Gold	N/A
Kenxtwen Ancona *	14	N/A	N/A
Titantails Boardwalk Bulet	14	Gold	N/A
Kenynten Lugano *	12	N/A	N/A
Gold Sierra Camelot	10	Bronze	N/A
Wildax Barney Rubble Rowendale	10	Silver	N/A

Table 3 lists the ten classified standard sires with at least one 2021 litter, with the highest number of total registered litters (up to the last litter registered in 2021).

Table 3. Classified standard sires with the most total litters to the end of 2021. Includes Health Scheme and Respiratory Function Grading (RFG) scheme dated before the end of 2021.

Registered Name	Total Litters	Health Scheme	RFG
Iron County Lada	78	Silver	N/A
The Only Super Ted	70	N/A	N/A
Titantails Boardwalk Bulet	61	Gold	N/A
Gold Sierra Copper Bull	59	Gold	N/A
Kenxtwen Ancona *	45	N/A	N/A
Busher Pljus Memory Game Of Frustyle	38	Gold	N/A
Prince Elchoco *	36	N/A	N/A
Gold-Sierra Felipe At Starblubulls	31	Silver	N/A
Mizbrowns Tommy Shelby	31	N/A	N/A
Kenynten Lugano *	30	N/A	N/A

Health Testing

The Kennel Club currently recommends French bulldog breeders use the following schemes and tests:

Priority (required for Kennel Club Assured Breeders (KCAB)):

- Respiratory Function Grading (RFG) scheme,

Important:

- Eye screening scheme
- DNA test for hereditary cataracts (HC-HSF4),
- Participation in the French Bulldog Health Scheme,
- Check COI.

Other health schemes and tests:

- DNA test for hyperuricosuria (HUU),
- Risk based DNA test for degenerative myelopathy (DM).

35 standard litters and were produced under the KCAB scheme.

2 (0.5%) standard litters were produced with both parents fulfilling all recommended schemes and tests (tested for HC-HSF4, RFG tested, eye screening and Health Scheme to at least the Bronze level). Removing the requirement for eye screening, 20 (5.2%) standard litters were produced with both parents fulfilling all other recommended schemes and tests.

HC-HSF4 DNA Testing

Hereditary cataracts is a disease affecting the lens of the eye. In affected dogs, the lens of the eye loses transparency, forming an opaque cataract. This can cover the whole lens, leading to blindness in that eye. A DNA test is available for the mutation causing a specific form of cataracts (HC-HSF4) in French bulldogs.

HC-HSF4 cataracts in French bulldogs is recessively inherited, meaning if at least one parent has tested clear or is hereditary clear for the HC-HSF4 mutation all puppies from that litter are safe.

Table 4 shows the available testing results for the standard litters. Dogs classified as 'No Result' may be tested, but the result is not publicly available. Hereditary results are combined with their tested counterparts (e.g. hereditary clear dogs are combined with clear tested dogs).

Table 4. HC-HSF4 testing results for the parents of standard litters (n=386)

		Sire			
		Affected	Carrier	Clear	No Result
Dam	Affected	0	0	0	0
	Carrier	0	0	1	0
	Clear	0	0	185	25
	No Result	0	0	91	84

302 (78.2%) of standard French bulldog litters had at least one parent either tested clear or hereditary clear for the HC-HSF4 mutation, meaning all puppies were clear. For 84 (20.6%) litters, no public HC-HSF4 test results were available for either parent.

No litters were produced from two carrier/affected parents, putting the offspring at confirmed risk of HC-HSF4.

French Bulldog Health Scheme

The French Bulldog Club of England have developed a health scheme to promote healthier breeding of French bulldogs and enable data collection about French bulldog health.

The current scheme consists of three achievement levels: gold, silver, and bronze, as well as a basic health check (see *Table 5*). The achievement levels are now only available to standard colour French bulldogs.

Table 5. Current criteria for the French Bulldog Health Scheme

Level	Age	Assessment
Bronze	1 year	<ul style="list-style-type: none">• Basic health check
Silver	1 year	<ul style="list-style-type: none">• Participated in the RFG scheme• Nostrils grade 1 or 2 (exceptions can be made based on vets comments for a grade 3, with an RFG scheme grade 0 or 1)• Heart test with a normal grade in the last 12 months• Putnam patella test score grade 0 or 1• DNA test for HC-HSF4 clear or hereditary clear• Participated in the RFG scheme with grade 0 or 1
Gold	2 years	<ul style="list-style-type: none">• Over two years of age• Participated in the RFG scheme with grade 0 or 1 at over two years• Repeat heart test normal at over two years• Spine x-ray and examination

The level a dog has achieved may have different meaning depending on when it was awarded. For example, bronze tested dogs did not have to have their breathing assessed and the RFG scheme had not yet been developed/made official. There is no division made between these versions in the subsequent summaries.

Table 6 summarises the health scheme levels achieved by parents of standard litters. Only health scheme results achieved in the month of or before the date of birth of a litter are included.

Table 6. French Bulldog Health Scheme results for the parents of standard litters (n=386)

		Sire				
		Gold	Silver	Bronze	Health Report	No Result
Dam	Gold	4	3	0	0	1
	Silver	11	35	7	0	23
	Bronze	3	9	2	0	11
	Health Report	0	0	0	0	0
	No Result	25	76	17	4	155

1.0% of standard litters were produced from two gold-tested parents. 53 (13.7%) of litters were produced from parents who have both achieved at least the silver level in the health scheme. 59.8% of litters had at least one parent tested to some level, and 19.2% of litters had both parents achieving some level in the health scheme.

Respiratory Function Grading Scheme

The Respiratory Function Grading (RFG) scheme was developed in association with the University of Cambridge to assess breathing in three breeds known to suffer from brachycephalic obstructive airway syndrome (BOAS), including the French bulldog. BOAS is a respiratory condition seen in short-headed (brachycephalic) dogs.

Trained assessors listen to the dog's breathing whilst they are relaxed. The dog is then moved at a fast pace for three minutes, and the breathing assessed again. Dogs are graded between 0 and 3 (see *Table 7* for explanation).

Table 7. Respiratory Function Grading scheme grades

Grade	Meaning
0	Clinically unaffected and free of respiratory signs of BOAS
1	Clinically unaffected, but with mild respiratory signs linked to BOAS
2	Clinically affected, with moderate respiratory signs of BOAS which may require treatment
3	Clinically affected, with severe respiratory signs of BOAS which requires treatment

The RFG scheme was officially launched in February 2019 with scores before this, assessed by the scheme developers at the University of Cambridge, entered into the database on request. Only RFG grades dated before a litter was born are included in the below summary.

Sires of 81 standard litters have been assessed under the RFG scheme, with dams of 74 standard litters assessed. Both parents have been assessed for 39 litters.

Table 8. Respiratory Function Grading grades for dogs assessed prior to birth of a litter.

Grade	Sires	Dams
0	12	40
1	20	30
2	5	3
3	0	0

Figure 9 shows the summarised results of the 153 tested French bulldogs by age.

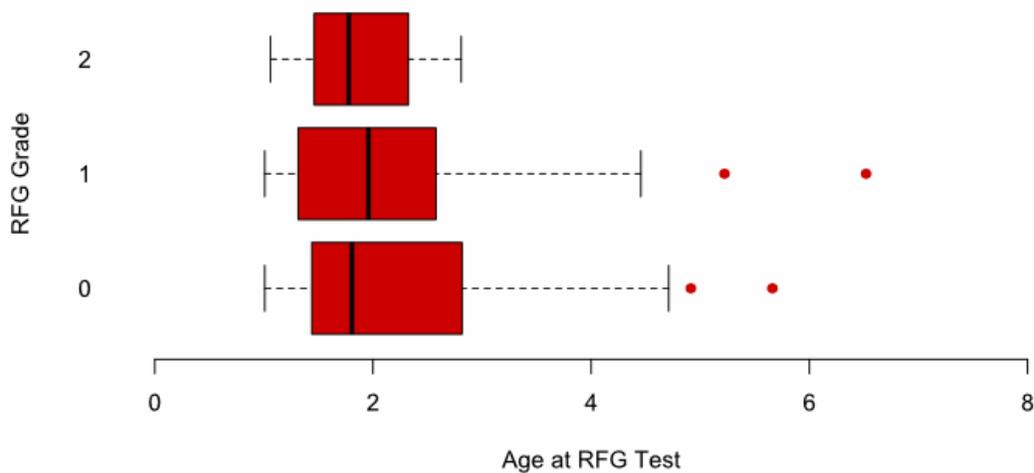


Figure 9. Respiratory Function Grading scheme results for dogs with standard litters (n=).

The mean age of these dogs at time of RFG assessment was 2.2 years, with the median age of 1.9 years. The oldest assessed dog was 6.5 years at time of RFG assessment, with the youngest being 1.0 years.

Of the eight dogs assessed to be grade 2, six litters were from breeding to dogs without an RFG grade at the time of the litter and six were from breeding to grade 0 or 1 dogs.

No parents of standard litters were assessed to be a grade 3.

Eye Screening

French bulldogs are recommended to undergo eye testing, under the KC/BVA/ISDS Eye Scheme or the ECVO Scheme.

Under the KC/BVA/ISDS Eye Scheme, French bulldogs are certified for hereditary cataracts.

EVCO Scheme examinations cover 14 inherited eye conditions as well as a general examination of the eye, potentially revealing other eye diseases.

Two standard French bulldog litters were produced from two eye tested parents. Another 31 litters were produced from one eye tested parent. Of the seven dogs with affected status available, six were unaffected and one affected with hereditary cataracts.

Other Testing

HUU DNA Testing

Hyperuricosuria (HUU) is a disease affecting uric acid metabolism. In affected dogs, uric acid can build up and form painful crystallised stones in the urinary tract. Correction may require surgery. A DNA test is available for the mutation in the *SLC2A9* gene causing HUU in bulldogs.

HUU in French bulldogs is recessively inherited, meaning if at least one parent has tested clear or is hereditary clear for the HUU mutation all puppies from that litter should be safe from HUU.

HUU testing in French bulldogs is not a priority or important test but is available under the CombiBreed set of DNA tests for the breed.

45 (11.7%) litters had at least one parent either tested clear or hereditary clear for the HUU mutation with publicly available results, meaning all puppies were clear.

DM DNA Testing

DM (degenerative myelopathy) is a disease affecting the spinal cord. In affected dogs, the white matter containing nerve fibres which transmit nerve impulses related to movement deteriorate. This leads to progressive loss of coordination, resulting in paralysis.

DM in affected breeds is recessively inherited, but with incomplete penetrance. This means if at least one parent has tested clear or is hereditary clear for the DM mutation all puppies from that litter should be safe from DM. However, even dogs with two copies of the DM associated mutation are not guaranteed to develop the condition.

The testable DM mutation does not have strong evidence for clinical significance in French bulldogs. However, DM testing is available under the CombiBreed set of DNA tests for the breed.

Table 9 shows testing results for standard litters.

Table 9. DM testing results for the parents of standard litters (n=386)

		Sire			
		2 Copies	Carrier	Clear	No Result
Dam	2 Copies	0	1	0	0
	Carrier	0	3	17	7
	Clear	0	9	66	27
	No Result	0	10	120	126

Appendix I: Additional Health Testing Results

Registered Name	HC-HSF4	DM	HUU	Source
Amuelle Little Tom Thumb		Clear		https://www.champdogs.co.uk/dog/61018
Bespokebully's Maximus Me			Clear	https://www.gumtree.com/p/dogs/bred-for-health-stunning-french-bulldog-rainbow-litter-/1429637078
Bestfrenchie Junior Guccio			Clear	https://www.champdogs.co.uk/dog/78801
Boule And Onuba Revelations At Luxbear	Clear	Clear		https://www.champdogs.co.uk/dog/76989
Bruno Fantastic Smile			Clear	http://ingrus.net/frbull/details/163184
Bulldavilins Dare To Dream			Clear	https://www.champdogs.co.uk/dog/64521
Busher Pljus Memory Game Of Frustyle			Clear	https://www.champdogs.co.uk/dog/42996
Camea Diamonds Violet			Clear	https://www.champdogs.co.uk/dog/68766
Carrowdale Love Story		Clear		https://www.champdogs.co.uk/dog/79581
D'Cameron Janoel			Clear	https://www.champdogs.co.uk/dog/77332
Eastonite Hercules At Caslblack			Clear	https://www.champdogs.co.uk/dog/66636
Gaja Diamentowa Perla			Clear	https://www.champdogs.co.uk/dog/78800
Galahad Of Kellaney	Clear	Clear	Clear	https://www.champdogs.co.uk/dog/75120
Gold Sierra Copper Bull	Clear	Clear		https://www.champdogs.co.uk/litter/51975
Gold-Sierra Camelot	Clear	Clear		https://www.pets4homes.co.uk/classifieds/2668313-gold-sierra-camelot-champion-sired-stoke-on-trent/
Instant Karma's Judicious Jamie Eastonite			Clear	https://www.champdogs.co.uk/dog/59706
Iron County Attica For Vengeance		Clear	Clear	https://www.champdogs.co.uk/dog/67747
Ken Baflo		Clear		https://www.champdogs.co.uk/dog/77932
Kentixen Achernar		Clear	Clear	https://www.champdogs.co.uk/dog/65743
Kentixen Booming System			Clear	https://www.champdogs.co.uk/dog/82480
Kianspuchi Hello Dolly At Tinytoy		Clear		https://www.champdogs.co.uk/dog/83959
Kingrock It's A Deal At Wildax		Carrier		https://www.champdogs.co.uk/dog/72857
Lairdstom Oban Bay Boy At Beaufrogz			Clear	https://www.champdogs.co.uk/dog/64099
Lincoln Of Shine Treasure For Leyenda	Clear			https://www.champdogs.co.uk/dog/83400
Little Miss Honeycomb			Clear	https://www.champdogs.co.uk/dog/76743
Loggerheads Honeysuckle At Gammorreon	Clear	Clear	Clear	https://www.champdogs.co.uk/dog/66526

Registered Name	HC-HSF4	DM	HUU	Source
Marvelmite Lady Willow May			Clear	https://www.champdogs.co.uk/dog/78020
Oakprides Sunshine	Clear			https://www.champdogs.co.uk/dog/77943
Ohana Z Lipkowego Rancza		Clear		https://www.champdogs.co.uk/dog/80208
Quio De Aronui Ardhub	Clear	Clear		https://www.champdogs.co.uk/dog/77128
Rewbiehill's Demeter			Clear	https://www.champdogs.co.uk/dog/80922
Roisin Lucky Little Kingdom At Torero			Clear	https://www.champdogs.co.uk/dog/81879
Rowendale Hobnob		Carrier	Clear	https://www.champdogs.co.uk/dog/70745
Staffstyles Playboy Bunny		Clear		https://www.champdogs.co.uk/dog/80819
Tahjem Brightnova		Clear		https://www.champdogs.co.uk/dog/78003
The Only Super Ted			Clear	https://www.champdogs.co.uk/dog/80031
Ventree's Mascarado By Essenceera	Clear	Clear		https://www.champdogs.co.uk/dog/80982
Warson Madam Pomfrey			Clear	https://www.champdogs.co.uk/dog/75474
Warson Stan Butler			Clear	https://www.champdogs.co.uk/dog/74088
Witherford Kevin Glamglow		Clear	Clear	https://www.champdogs.co.uk/dog/76013