



Breeder's Toolkit

Poodle Genetics Lab · Premium Reference Set

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Every base and pattern in its real coat colour, named the breed's way.

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Breeding Pair Worksheet

A printable sheet to work a real pairing, locus by locus.

Built from the same genetics engine as the calculator at poodlegenetics.com, so this set and the tool never disagree. Print, laminate, and keep it by the whelping box. Your purchase supports the free tools and keeps the science open.



The Complete Colour Naming Chart

Every base and pattern shown in its real coat colour, and named the way the breed says it

Solid colours

		Black	E_ K_ B_ D_
		Blue	dd born, or G/g clearing
		Silver	G/G clearing
		Brown	bb
		Lilac / Isabella	bb dd
		Cafe-au-lait	bb + G/g clearing
		Silver Beige	bb + G/G clearing
		Red-spectrum (shade by eye)	ee

Coat patterns (kyky or kbr lets the A locus show)

		Black Phantom	ky ky, at at
		Blue Phantom	ky ky, at at, dd
		Sable	ky ky, Ay_
		Blue Sable	ky ky, Ay_, dd
		Agouti (wolf sable)	ky ky, aw_
		Brindle Sable	kbr_, Ay_
		Black Brindle Point Phantom	kbr_, at at



The Complete Colour Naming Chart

White spotting is named last of all; a merle is named for the pigment it merles

White spotting (named last)

		Black Parti	sp sp
		Black Abstract	S sp
		Black Phantom Parti (tri)	ky ky at at, sp sp
		Black Parti Ticked	sp sp, R_

Merle (keyed on B and D, never renamed by clearing)

		Black-based Merle	M m
		Blue Merle	M m, dd
		Brown-based Merle	M m, bb
		Lilac Merle	M m, bb dd
		Black-based Merle Parti	M m, sp sp
		Double Black-based Merle (critical)	M M

The two rules that keep names right

Colour first, spotting last: "Blue Parti", not "Parti Blue". A merle is named for the pigment it merles (B and D), never renamed by clearing. Red-spectrum shade is polygenic - recorded by eye, never predicted.



DNA Panel Translator

The notation traps that make a breeder type the right result into the wrong box

A prediction is only as good as the genotype you enter. Labs report the SAME allele in different letters, and a few of those differences flip the meaning. Read every result against the key of the lab that produced it - not another lab's.

What it is	The trap	Enter as
Roan / ticking	Embark, Wisdom and Paw Print call it the R locus (R/r). Laboklin still calls it T. Same USH2A gene.	R locus (R/r)
A locus	Legacy alleles (Ay, aw, at, a) vs modern ASIP haplotypes (DY, SY, AG, BS, BB). Your lab uses one or the other.	Match the calculator's legacy/modern toggle
Furnishings / coat	A UC Davis "N/N" means the OPPOSITE thing on the furnishings test vs the improper-coat test. For poodles the test you usually want is Improper Coat.	Confirm which test; record the Improper Coat result
Shedding (SD)	SD is the LOW-shedding variant - it does not mean the dog sheds.	SD = low shedding
Curl	On some panels C = straight and the curl allele is the variant; on others it is reversed.	Check the lab's key for which is curl
Coat length (L)	L can mean the long-coat variant or the reference allele depending on the lab.	Read against the lab's legend

The one rule that prevents all of it

Never read a genotype against a different lab's key. If you switch labs, re-map the letters before you enter anything - a right result in the wrong notation predicts the wrong litter.

Covered in depth, with each lab's current notation, in the genetics guide at poodlegenetics.com.



The Full Merle Pairing Matrix

Seven length classes, base-pair ranges, single vs double expression, and every pairing's risk

Class	Insert (bp)	One copy	Two copies / with M
m	~171	Non-merle	Non-merle
Mc	200-230	Non-expressing (cryptic)	Usually none
Mc+	231-246	Non-expressing (cryptic)	May express faintly
Ma	247-254	Non-expressing	Ma/Ma expresses weakly
Ma+	255-264	Non-expressing (slight greying at most)	Marked; length-dependent
M	265-268	Classic merle	DOUBLE MERLE
Mh	269+	Strong & variable - test, do not judge by eye	Severe - expert review

Pairing risk - one parent's allele x the other's

	m	Mc	Mc+	Ma	Ma+	M	Mh
m	MIN	MIN	MIN	MIN	MIN	MIN	LOW
Mc	MIN	MIN	MIN	MIN	LOW	LOW	ELE
Mc+	MIN	MIN	LOW	LOW	MOD	MOD	HIGH
Ma	MIN	MIN	LOW	LOW	MOD	MOD	HIGH
Ma+	MIN	LOW	MOD	MOD	MOD	MOD	HIGH
M	MIN	LOW	MOD	MOD	MOD	HIGH	HIGH
Mh	LOW	ELE	HIGH	HIGH	HIGH	HIGH	HIGH

MIN safe · LOW · MOD manageable · ELE expert review · HIGH never breed

Any pairing involving Mh needs expert review, whatever its band.

How to read this matrix - and where it stops

The band is the risk of pigment deleting to white; it is not the whole picture. The safe default without base-pair testing is simple: do not breed merle to merle. The grid shows the exceptions only when lengths are confirmed by test - the short cryptic alleles (Mc, Mc+) carry little to no deletion risk, and a single short/atypical allele (Mc+, Ma, Ma+) does not express at all. Any pairing involving Mh needs expert review whatever its band. BAER and eye exams on every merle puppy.



Ten Pairings, Worked

Real crosses run through the calculator - the odds each puppy actually carries

The pairing	Each puppy (per-offspring odds)
Black Bb x Black Bb	75% Black · 25% Brown
Blue dd x Blue dd	100% Blue
Brown bb x Black BB	All Black, and every pup carries brown (Bb)
Red ee x Red ee	100% Red-spectrum (shade recorded by eye, never predicted)
Parti spsp x Carrier Ssp	50% Parti · 50% Abstract (one white allele still shows)
Merle Mm x Solid mm	50% Merle · 50% non-merle
Merle Mm x Merle Mm	25% DOUBLE MERLE (critical) - never breed merle x merle
KB/kbr Ay/at x kbr/ky Ay/at	50% Black · 38% Brindle Sable · 13% Brindle Point Phantom
Silver G/G x Black gg	No DNA test exists for the G locus - greying is read from the adult coat. Pups here are born black.
Sable Ay_ x Phantom at at	Sable or phantom - depends on the sable dog's second A allele

Odds are per puppy, not per litter

A 25% result does not mean exactly one pup in four - each puppy is an independent roll, and a small litter can miss the odds entirely in either direction. Enter your own pair in the calculator at poodlegenetics.com for the full breakdown.



Breeding Pair Worksheet

Work a real pairing locus by locus, then check it against the calculator

Dam: _____

Sire: _____

Date: _____

Lab: _____

Locus	Dam	Sire	Notation reminder
E (Extension)			EE / Ee / ee (+ Em, Eg)
K (Dominant black / brindle)			KB / kbr / ky
A (Agouti)			Ay / aw / at / a (or ASIP)
B (Brown)			BB / Bb / bb
D (Dilution)			DD / Dd / dd
M (Merle) + bp length			record ALL alleles + any mosaic peak [in brackets]
S (Parti / spotting)			SS / Ssp / spsp
R (Roan / ticking)			RR / Rr / rr
Observed shade / greying			no DNA test - recorded by eye

Predicted outcomes (from the calculator)

Before this pairing goes ahead

Enter both columns into the calculator at poodlegenetics.com. If either dog is merle, confirm the other is DNA-clear and never pair merle x merle. BAER and eye exams on merle puppies. Confirm every genotype by test - a worksheet is a plan, not a result.