



FEATURE

The Politics of Canine Genetic Testing: What Every Australian Breeder Should Know

By George Sofronidis, with Contributions from Charlie & Mary

As the demand for genetically sound dogs grows, Australian breeders are embracing their role as stewards of heritage lines and champions of responsible breeding. Navigating the world of genetic tests, laboratories, and breeder tools can feel overwhelming, much like how my Boston Terrier, 'Charlie', and Griffon Bruxellois, 'Mary', enthusiastically tackle any adventure (or puddle). But unlike my mischievous duo, breeders must approach genetic testing with caution and strategy. This article delves into the essentials of genetic testing, highlighting what to consider and how to ensure the future of your breeding program aligns with the legacy of responsible breeding.

What Should You Look for in Genetic Testing Services?

Not all genetic tests are created equal, and understanding what you're investing in is crucial for informed breeding decisions. Here are key factors to consider:

Comprehensive Testing Panels

The best labs offer panels tailored to your breed, covering inherited diseases, traits, and coat colors. Such panels help breeders avoid undesirable conditions while preserving desired traits. Ask yourself:

- Does the lab's test menu align with my breeding goals?
- Are these tests recognised by Dogs Australia or my breed Club?

Accuracy and Reliability

Choose a lab with a proven track record of validated results and industry accreditation. Reliable results form the backbone of responsible breeding.

Turnaround Time – Everyone needs results yesterday!

While fast results are convenient, they should never compromise accuracy. Reliable timing is especially critical when breeders are working within tight breeding schedules.

When I tested Charlie and Mary, I ensured the panels addressed their breed-specific health needs. Charlie was screened for hereditary cataracts - prevalent in Boston Terriers - while Mary was tested for syringomyelia, a condition occasionally affecting Griffon Bruxellois. The results guided me in making informed, responsible decisions.

What Sets a Laboratory Apart?

Exceptional labs offer more than just results; they become partners in the breeding journey. Here's what to look for:

Comprehensive Test Menu

Labs that regularly update their panels demonstrate a commitment to science. A broad test menu, including coat colours and health conditions, empowers breeders to make holistic decisions.





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Breeder-Centric Support

A standout lab doesn't stop at providing results. Look for tools like genetic calculators, breeding strategies, and expert consultations. Customer service tailored to breeders ensures you have support when you need it most.

Advanced Technology

Next Generation Sequencing (NGS) offers comprehensive insights but comes at a higher cost. Traditional methods like PCR remain reliable and accessible for targeted tests.

With Charlie and Mary, I chose a lab that didn't just deliver results but also offered insights into breeding compatibility and long-term planning. Tools like these gave me confidence in preserving health and heritage while embracing innovation.

Breeder Tools: The Key to Purposeful Planning

Breeder tools bridge the gap between testing results and actionable strategies. Here's how they help:

Genetic Calculators

These tools predict outcomes for potential pairings, balancing health risks and desired traits. For breeds like Boston Terriers or Griffon Bruxellois, predicting coat colors or hereditary conditions can be invaluable.

Breed-Specific Guidelines

Labs with expertise in breed standards provide guidance that aligns with Dogs Australia requirements. This ensures breeders maintain the traits and temperament that define their breed while prioritising health.

Consultation and Support

Access to geneticists or experienced staff helps breeders interpret complex results, such as carrier status or at-risk markers. With expert input, you can make informed decisions without second-guessing.

For Charlie, I used a genetic calculator to explore coat color possibilities. For Mary, consultations helped me plan matings that minimised hereditary risks while enhancing Griffon-specific traits.

Understanding Testing Platforms

Different genetic testing platforms serve different purposes. Here's a quick breakdown:

- PCR (Polymerase Chain Reaction): Ideal for detecting specific mutations.
- Microarray Testing: Efficient for testing multiple markers, suitable for breed panels.
- Next Generation Sequencing (NGS): Comprehensive but more costly, capable of identifying new mutations.

Your choice should depend on your goals. For a single condition, PCR might suffice, but for more complex insights, NGS offers a deeper dive into genetic health.

Data Security: Protecting Your DNA Assets

In the digital age, DNA data is invaluable, making its security non-negotiable. Breeders should prioritise labs that ensure:

Secure Storage and Confidentiality

Ensure your dog's DNA data is protected from misuse and remains confidential.

Ownership and Control

Retain ownership of your data. Opt for labs that allow you to decide how, and if, your dog's data is shared.

For Charlie and Mary, I chose a lab that prioritised privacy, ensuring their data remained under my control. Trustworthy labs respect breeders' rights and protect against unauthorised use. The ability to share and transfer data is a key tool most breeders need today – you have the 'power' to click to what you share and to who.

The Politics of Genetic Testing: Striking the Right Balance

Genetic testing can be a contentious topic, with debates ranging from the extent of testing to its interpretation.

Balancing Science with Responsibility

Responsible breeders aim to manage health risks without jeopardising genetic diversity. Testing is a tool, not an absolute.

Thoughtful Interpretation of Results

A genetic marker's presence doesn't automatically disqualify a dog from breeding. Context matters, and expert input can guide breeders in making balanced decisions.

Charlie and Mary's results weren't just data points—they were puzzle pieces that informed my broader breeding strategy. Responsible testing isn't about perfection but about progress and preservation.

Voting for the Future: Your Role in Breeding Politics

Breeders play a critical role in shaping the future of their breeds, not just through their programs but by influencing the policies of Dogs Australia and breed clubs.

- **Get Involved:** Participate in club elections or committees. Your voice can influence testing standards and breeding guidelines.
- **Stay Educated:** Keep up with advancements in genetics and advocate for informed, science-based policies. Charlie has already "cast his vote" (a bark of approval), while Mary insists she'd make an excellent president of the backyard. The politics of breeding, like the dynamics of my furry duo, requires collaboration, thoughtfulness, and a bit of good-natured debate.

Conclusion: Testing with Purpose, Breeding with Confidence

Genetic testing is more than a tool—it's a responsibility. By choosing reputable labs, leveraging breeder tools, and advocating for thoughtful policies, you can ensure the legacy of your breed remains strong.

Breeders of traditional lines hold the torch for heritage and health. By embracing the science of genetics without losing sight of the art of breeding, you contribute to a future where every puppy represents the best of its breed.

So, dive in confidently—just like Charlie and Mary—but remember, every test and decision you make carries the potential to shape generations. Let's make them count.

About George Sofrondis CEO & Co-Founder, ORIVET

George has over 30 years of dedicated experience in molecular biology and the way it can assist in areas of animal and human management.

George has worked at Monash University, Melbourne University and the Zoological Parks and Gardens Board.

In January 2014 he co-founded Oriver Genetic Pet Care where "Genetic George" the Petrepreneur has continued to focus on innovations for breeders, veterinarians, associations and pet owners on the benefits of DNA testing, in particular, the insight it brings to all animal enthusiasts.

