

Guide Dogs UK Breeding Programme



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www.guidedogs.org.uk

History

- 1931 - first 4 British guide dogs trained
- 1959 - first brood bitch, a German shepherd named Reiner
- 1960 - breeding programme founded by Derek Freeman
- 1970 - breeding and puppy walking moved into Tollgate House
- 2011 – moved into the National Breeding Centre
- Today - the world's largest breeder and trainer of working dogs
 - Helped over 29,000 people to achieve life-changing independence







Guide Dogs
United Kingdom

Guide Dog Population

- 350 Breeding stock
- 1,300 puppies at walk
- 400 dogs in early training
- 200 dogs in advanced training
- 4,700 working guide dogs
- 760 retired dogs under GDs care

Introducing the programme

- 1300 pups annually from 270 broods and 75 studs
- Maximum 5 litters (bitch) and eight years of age
- Labradors, Golden retrievers, German shepherds
- Quality and quantity
- Guide Dog Qualities include (amongst many)
 - Soundness
 - Friendliness/sociability
 - Good Initiative
 - Confidence
 - Responsiveness
 - Awareness of environment (but not over aware!)

Aims & Challenges

- To provide pups in sufficient quantity and quality to meet client need
- To provide diversity of type and breed to meet client need
- To breed consistent numbers of puppies throughout the year
- To improve the health and temperament of breeding stock on the programme and consequently pups produced
- Ensure regular and effective monitoring of the Breeding Programme and it's output

Planning Mating Considerations

- Mating season? (bitch)
- Maiden/experienced
- Physical size/weight
- Health and temperamental qualities
 - Self, siblings and dam/sire
 - Breeding alert system
- Quality/ success rate of progeny
- Pedigree/Ancestry
- Pure/cross
- Repeat mating?
- Fertility
- Phenotypic selection with some genetic information

Optimal mating time

- Bitches enter breeding centre first day of vaginal discharge
- Vaginal cytology from day 6
 - Daily until metoestrus
- Progesterone measurement from day 8
 - Monday, Wednesday and Friday until $>10\text{ng/ml}$
 - Quantitative ELISA

Mating Process



- First mating 1-2 days post-ovulation
- Repeat mating 48 hours later, normally 2 matings
- Natural mating
 - 2011 conception rate 95.7%
 - 2011 litter size 7.9 +/- 2.3 puppies
- Artificial insemination
 - 2011 conception rate 81.8%
 - 2011 litter size 7.5 +/- 3.4 puppies
- Trans cervical insemination for frozen thawed semen

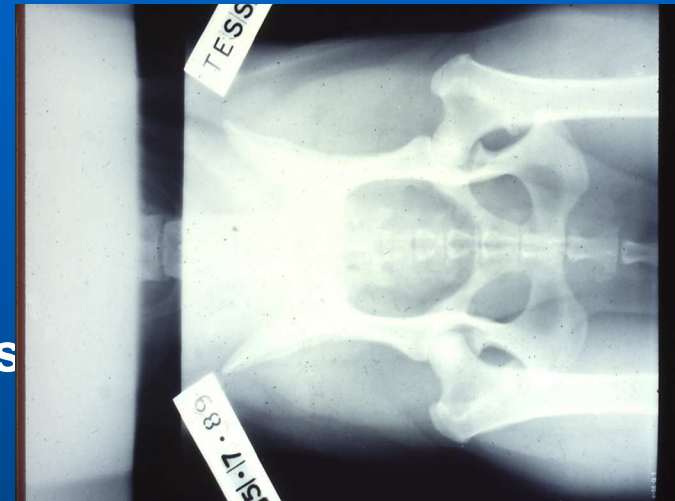
The puppies

- Bitches whelp at the breeding centre or in the home
- Puppies are removed from the dam at 6-7 weeks
- They enter the breeding centre for vaccination and micro chipping
- Three days later they go to the puppy walker



Selection of New Breeding Stock

- Identify potential future breeding stock at point of mating
- Review progress at seven months of age
- Assessed in their home at 8 months by the Breed Stock Selector
- Health Screening
 - Xrays – hips, shoulders and elbows
 - Ophthalmic examination
 - Other inherited disease
- Further temperamental assessment at breeding centre including Character assessment tracker



Other sources of Supply

- **External breeders**
 - Purchase of externally bred puppies
 - Hire of Guide Dogs studs to external breeders
- **International collaborations with other Guide Dog schools**
- **Other assistance or working dog organisations in the UK**
 - Police
 - Hearing Dogs
 - Dogs for the Disabled

Accepted Breeding Stock – Ongoing Monitoring

- Accepted at 12 months of age
- New stock reviewed at 18 months for:
 - Health information of dog, siblings (in training) and parents
 - BVA ophthalmic cert, ophthalmic results of siblings
 - Decision is made for the breeding future of the individual
- Breed Review meeting monthly
 - Establish sensible, pragmatic and balanced management of the programme
 - Review breeding stock and their progeny
- Ongoing monitoring of stock with breeding alerts system for health and temperament traits:
 - A1; A2; A3
 - Constant monitoring of key inherited conditions



Suspend breeding and review stud after three litters

Inherited disease

- Elbow dysplasia
- Hip dysplasia
- Shoulder OCD
- Ophthalmic disease – PRA, GR_PRA1, Geographic dysplasia, Multifocal retinal dysplasia, Posterior polar subcapsular cataract
- Atopy – allergic skin disease
- Aortic stenosis - Golden Retriever
- Exocrine pancreatic insufficiency – GSD
- Degenerative myelopathy - Golden Retriever and GSD
- Epilepsy
- Exercise induced collapse - Labrador

Unusual Breeds

- Historically – donations, approvals eg Dobermans, Leonbergers, Rottweiler, Tervuerens, Australian Shepherd Dogs
- Not necessarily suitable as guides in own right
- Crossed, may add additional, secondary benefits – temperament
- Following evaluation decided to retain the following as they produced the most successful offspring:
 - FCR x G RET
 - GSD x G RET
 - CCR x LAB
 - St. POODLE x LAB
 - B COLLIE x G RET



Different Breeds

Rough Collie



Airedale Terrier



International Collaborations

- **Cooperative breeding group with six large international Guide Dog schools**

- KNGF Royal Dutch Guide Dog School, Netherlands
- Guide Dogs for the Blind, Inc., San Rafael, California, USA
- Guiding Eyes for the Blind, Inc., New York, USA
- Guide Dog Association of Victoria, Australia
- The Seeing Eye, Inc., New Jersey, USA
- new bloodlines from proven stock = increased genetic diversity
- reciprocal exchanges of frozen semen & livestock

- **Staff exchanges**

- **Work with smaller schools in International Guide Dog Federation**
– e.g. Israel; Texas; Adelaide

Research

- Improving the efficiency of the selection of breeding stock and breeding practices to maximise production
- Identifying optimal methods of rearing puppies to maximise their potential
- Recent research
 - Estimated breeding values and optimal mating scheme
 - Whelping complications and fertility by parity
 - Husbandry and survival differences home vs breeding centre (Veterinary Nursing Journal, 2010)
 - Fertility and whelping complications following vaginal abnormality repair (Veterinary Record, 2011)
 - Quality assurance of canine vaginal cytology: a preliminary study (Theriogenology, 2010)



Thanks for listening



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