



Drentsche Patrijshond Club of North America



Breeders handbook

March 14th, 2015



So you want to breed your Drent...

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- Reasons to Breed
- Breeding Requirements
- Breeding Timeline
- Litter Requirements



Reasons to breed...

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- Broaden gene pool
- Help establish the breed
- share your passion for Drents with others



NOT reasons to breed...

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- to make money
- because it's a rare breed
- to let your children experience the cycle of life



Breeding Requirements

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- Health
- Registration
- Temperament
- Conformation
- General



Health Requirements

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- General overall good health (e.g. no epilepsy, PRA etc)
- Hip X rays - OFA Passing Grade (Fair, Good, Excellent) or PennHip
- Elbow X rays – OFA (Normal, Grade 1)
- CERF exam (eyes) - Normal

Registration Requirements

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- DPCNA
- AKC – (optional/recommended)
 - Parents must be registered to register litter w/AKC
 - Or
 - Individual dogs may be registered with DPCNA registration
- Others (optional) UKC, NHSB, CKC

Temperament Requirements

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- AKC Canine Good Citizen certificate
- evaluated by DPCNA at annual meeting or by approved board member privately
- No significant anxiety, aggression, shyness, reactivity
- Early and extensive socialization of potential breeding candidate is key

Conformation Requirements

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- Passing evaluations from two qualified FCI judges (Very Good or Excellent)
- OR
- Passing Breeding Commission evaluation (based on health, physical characteristics – pictures and video, temperament)

General Requirements - Sire

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- At least 2 years of age (OFA reqs)
- Recommended no more than 2 litters/year
- No current maximum breedings/lifetime (be responsible)

General Requirements - Dam

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- At least 2 years of age, not older than 8 yrs (dog can also not be older than 6 yrs old for first litter)
- cannot breed on back to back heat cycles (with the exception of females that cycle only once per year)
- No more than 2 litters in 24 months
- Total maximum 5 litters/lifetime (recommend only 2-3 lifetime)

Breeding Timeline

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Time Period	To Do
Age 0-2 years	<ul style="list-style-type: none">✓ Focus on preventative care, sound nutrition, puppy manners/obedience classes and extensive socialization✓ CGC Test (recommended)✓ Get AKC,FCPR Registrations✓ Get Judges evaluations (if available)
Age 2 years	<ul style="list-style-type: none">✓ OFA Hip/Elbow X rays✓ Cerf exam✓ Apply for BAC breeding approval✓ ID best breeding partners (pedigree and health of line analysis)
At or just before time of breeding	<ul style="list-style-type: none">✓ Brucellosis test✓ Re-vaccinate (if vet reccomends)✓ Approach breeding partner and discuss terms, logistics, etc.

Summary

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- We need great breeders
- Develop personal timeline for your Drent
- When/if you have questions, ask
- Join us in the adventure



Choices in Breeding

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Lee Brewer



Which Male and Female Combination?

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- Club's Breeding Commission role with owners
 - Looking at coefficient of inbreeding
 - ✦ Up to 32 generations
 - Research health issues
 - Strengthening good qualities
 - Improving weaker qualities



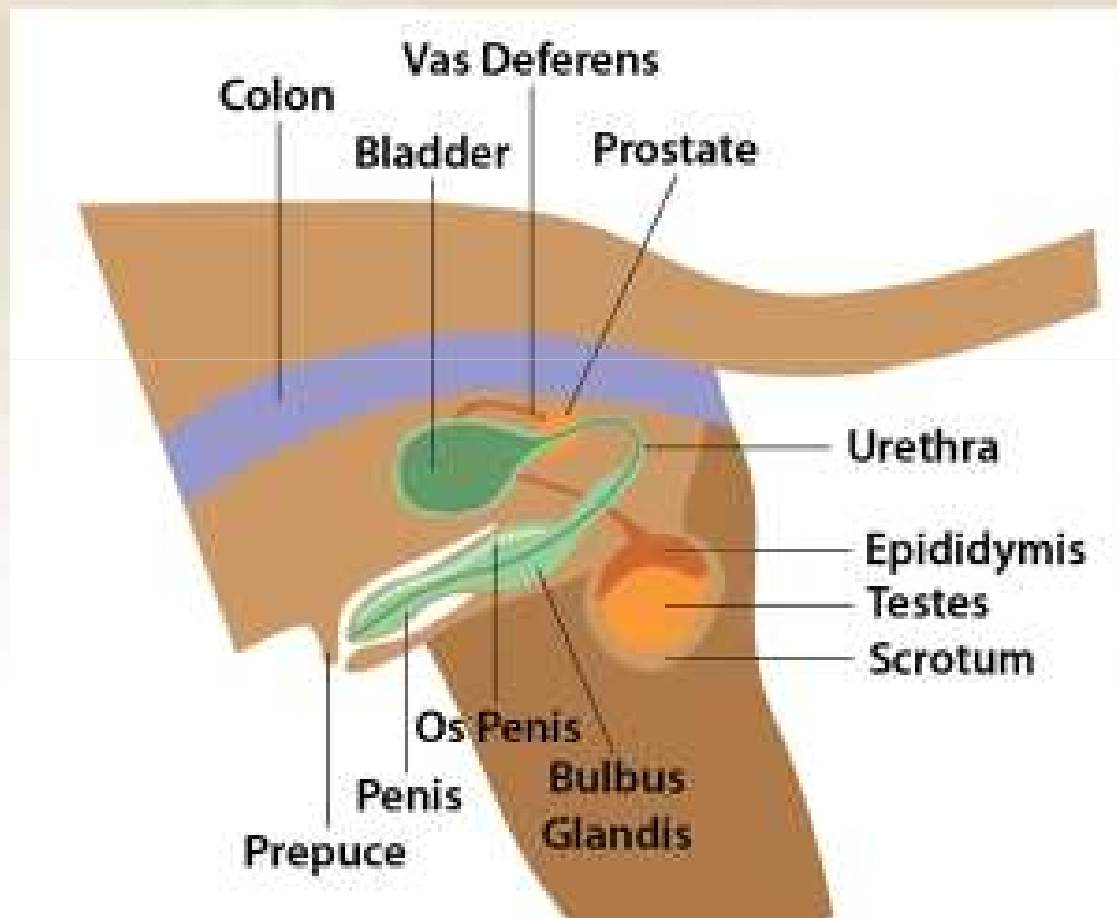
Natural Breeding or Insemination

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- Where does your best match live?
- Is it practical to travel for a natural breeding?
- Has the male been previously used (proven)?
- Is there a need for evaluating the semen? Untried male, high expense in breeding, lack of prior success
- Is the female uneasy with either other dogs or the veterinarian?

Reproductive Anatomy of the Male

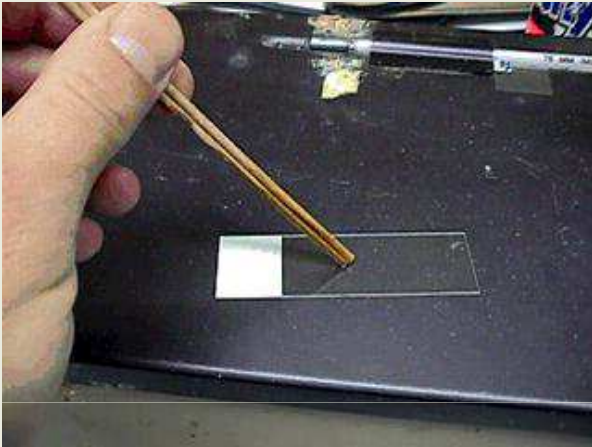
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Semen Analysis

Semen Evaluation

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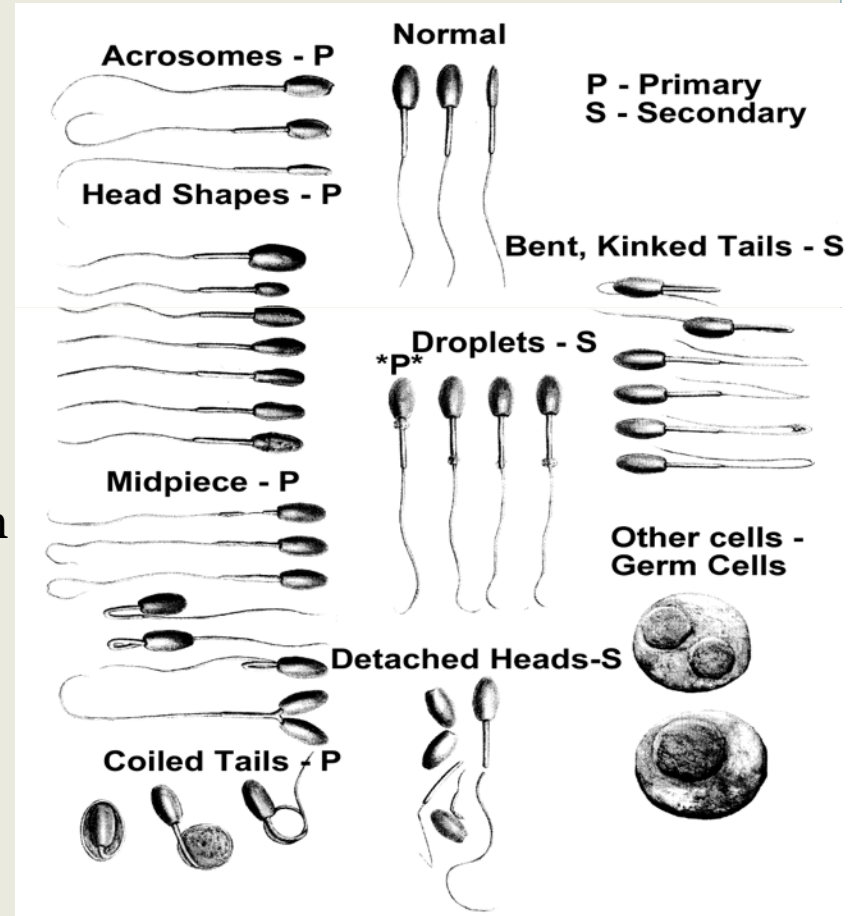


Motility

Do they move

Morphology

What are their condition



Semen Evaluation

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- **By the end of the analysis and calculations:**
 - Assessed sperm motility
 - Assessed sperm morphology
 - Calculated the number of motile sperm in the ejaculate and per ml of ejaculate = the concentration.
 - In cases of infertility have also looked for specific problems with the semen, assessed concentration, looked for extra cells and started further tests.

Fresh Chilled Semen

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- Using the biochemistry knowledge we have about semen, an extender is added to allow for sperm survival during the chilling process; buffers the solution and adds nutrients for the sperm during the time it is chilled prior to warming and insemination.



Frozen Semen

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- **Why freeze the semen?**
 - for shipping long distances (7 days grace) or to remote locations
 - to save genetic potential for the breed
 - insure the breeding potential of a stud
 - dog against loss, death or infertility



Frozen Semen

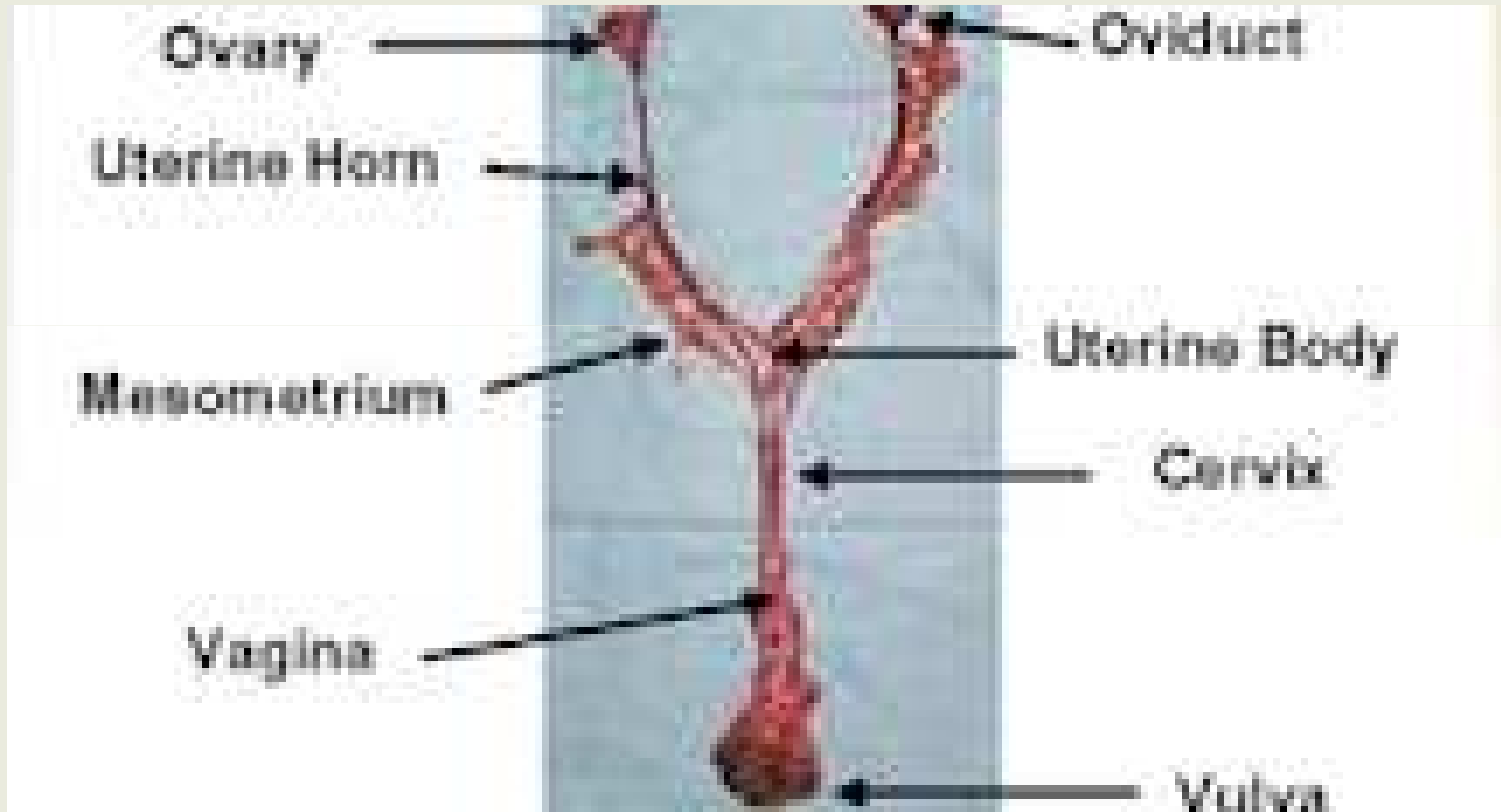
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- Add extender
- Fill straws that have been marked and pre-cooled to 40C as well – seal and cool for 20-60min.
- Put above liquid nitrogen (4-5cm) for 20min then plunge into liquid nitrogen
- Test one straw for post thaw motility and store rest



Reproductive Anatomy of Female

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Reproductive Terms

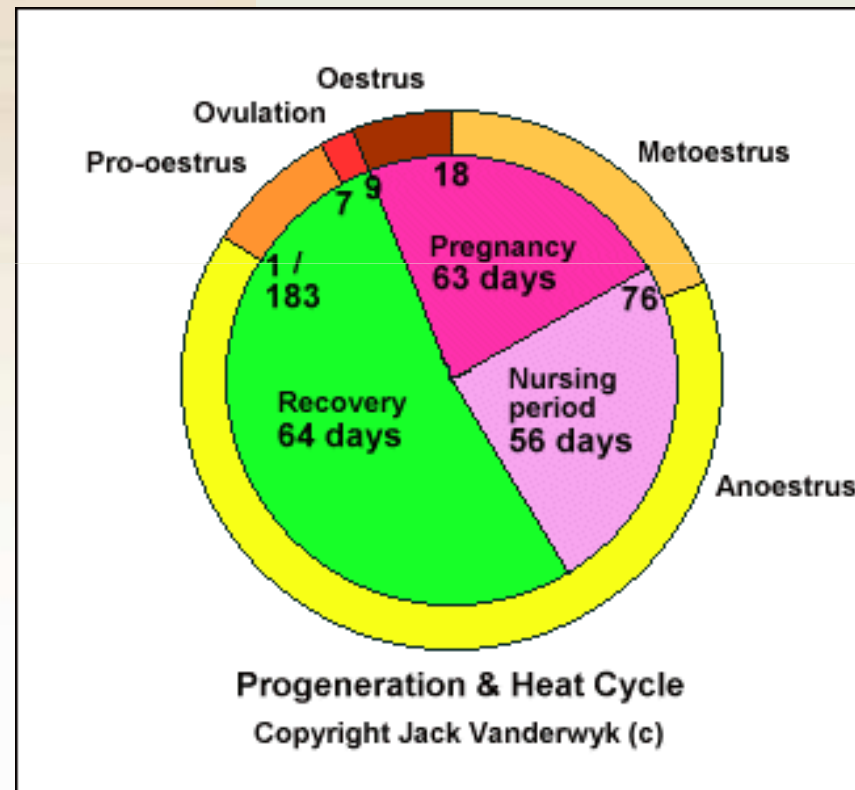
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- **Estrous cycle**
 - Reproductive cycle of the female
- **Oocyte**
 - A developing egg cell
- **Follicle**
 - Fluid-filled blister-like structures located on the ovary; each contains an oocyte and its encasing cells
- **Ovulation**
 - The periodic rupture of mature ovarian follicles resulting in the release of one oocyte from each follicle

Estrus Cycle

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- Variable depending on *breed* and *size*
- When does it start?
 - 6 to 18 months of age
- How often does it happen?
 - Every 7 months on average
 - Ranges: every 4 months to every 12 months



Ovulation

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- How many oocytes are released?
 - Drents have a wide range from 4 to 12 at a time!
- Oocytes need approximately 60 hours to mature



Timing for Breeding

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- Signs of Estrus starts
- Vaginal changes start (cytology) as estrogen increases
- Estrogen starts to drop and LH surge occurs
- Approx. 2-3 days later Ovulation occurs
- Approx 4-5 days later Oocyte maturation occurs
- Approx 6-7 days later Diestrus occurs.

Misreading Signals

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- To confuse things:
- Ovulation does not always coincide with onset of sexual behavior.
- Behavioral estrus in some bitches occurs 2-3 days before the LH surge, some 4-5 days after the LH surge and in some extreme cases males have been allowed by the female to breed in pro-estrus 4-5 days prior to the LH surge.
- Some have even refused a male until 6 days post the LH surge.

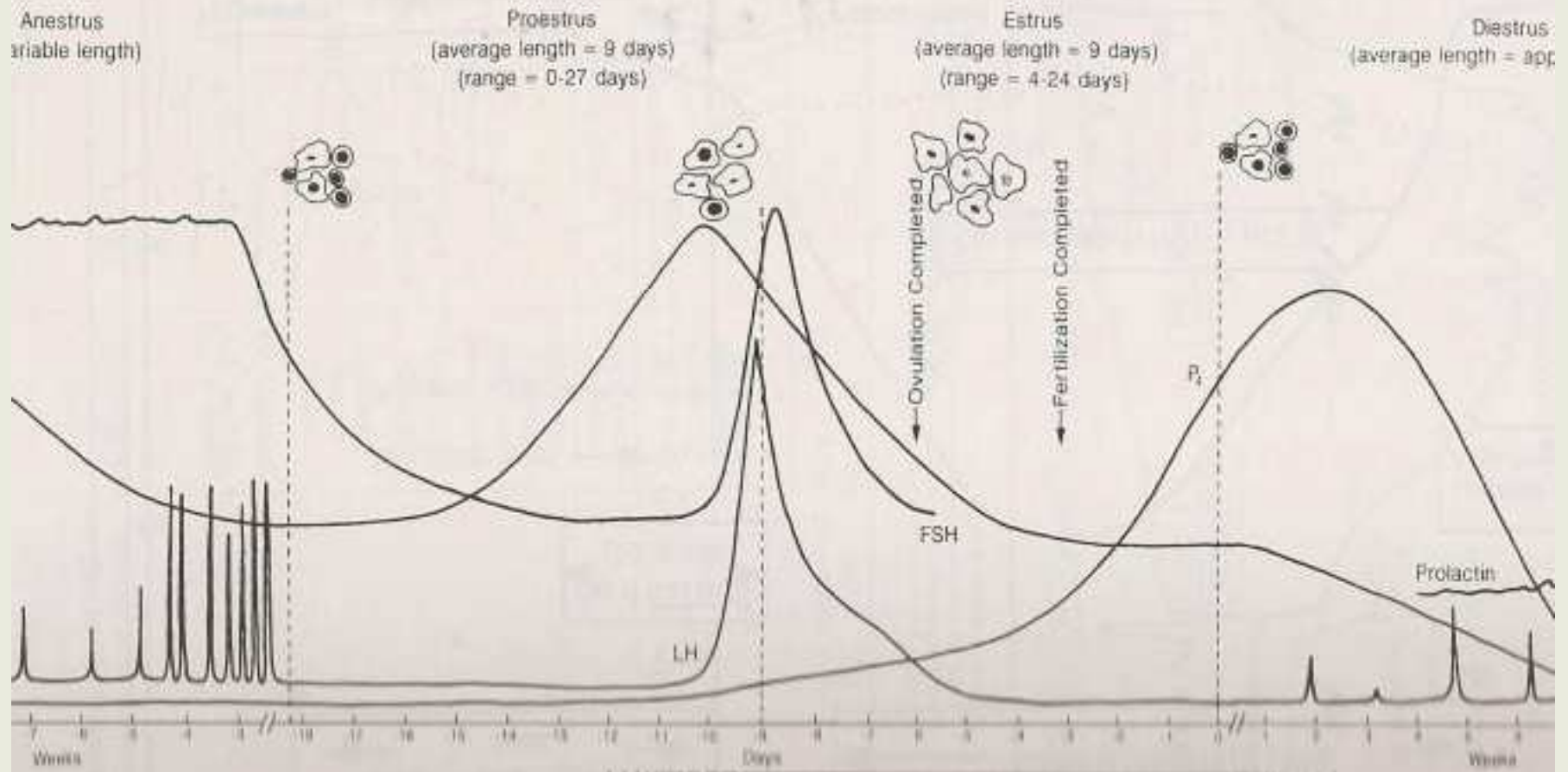
Evaluation of Ovarian Function

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- Behavioral
- Vaginal Cytology
- Hormone Assays (Progesterone and/or LH testing)

Changes in cells and Progesterone Levels

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Progesterone

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- Widely available assays
- Significantly elevated levels that are easy to detect and continue to rise as the heat cycle continues into estrus and diestrus.
- Plasma quantities are measured in nanograms/ ml (or in Canada, nanomol/liter)
- Rises from $<.02$ ng/ml at proestrus to between 2-4 ng/ml at the time of LH surge (two days prior to ovulation), and to between 5-10 ng/ml at ovulation.

Progesterone Levels

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- Proestrus 0.2 – 1.5 ng/ml
- Early LH surge 1.6 – 2.4 ng/ml
- LH surge 2.5 – 3.9 ng/ml
- Ovulation 5.0 – 10.0 ng/ml
- Oocyte maturation 13 – 17 ng/ml
- (peak fertility)

The Heat is On!

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- **Timing the actual mating days**
- **Semen survival**
 - Fresh survives 5-7 days within the female
 - Fresh chilled extended survives 1-2 days
 - Frozen survives ~ 12 hours
- **Benefits of progesterone timing**
 - Indicates if the female has a normal cycle
 - Increased fertilization by timing the mating with the maturation of the eggs
 - Accurate estimation of the whelping date – 63 days after ovulation

Conclusion

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- Successful breeding
- depends on:
 - Good health of the stud
 - and female
 - Good timing of the mating/insemination
 - Good care of the pups



Puppy Development and Socialization

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Cindy Pfister



Birth to Two Weeks

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- Senses of touch and taste are present
- Stays close to Mom and litter mates
- **Breeder**
 - Provide warm environment
 - Handle pups regularly and gentle
 - Rate of mental development depends on how complex their environment

Two to Four Weeks

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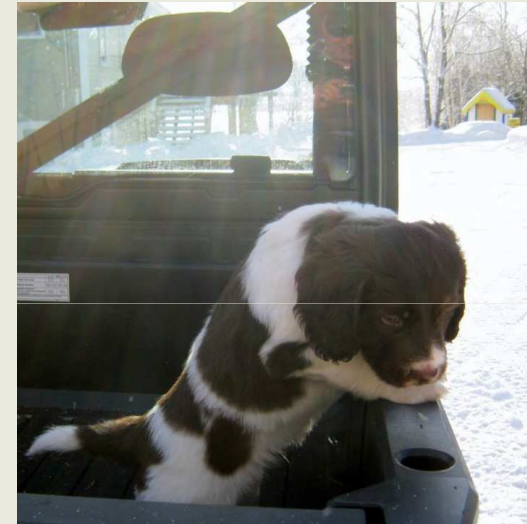
- Eyes open, teeth begin to come in, senses of hearing, and smell develop
- Puppy begins to stand and walk a little
- By week four or five, eyesight is well developed
- **Breeder**
 - Provide a complex environment
 - Variety of surfaces to walk on, noises, toys to play with
 - Different people to meet



THREE-TWELVE: PRIMARY SOCIALIZATION

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- Puppy begins to learn from positive experiences(positive reinforcement)
- Learns not to bite to hard from littermates
- Relates with littermate through play
- Puppy's behavior is guided by mother
- Mother starts weaning puppies



- **Breeder**

- Each puppy should have one on one contact
- A clear distinction between sleeping and play area(ensures puppy can leave sleeping area to eliminate)
- Occasionally isolate puppy to prepare them for separation(good time to use a crate)
- More exposure of different noises, surfaces and people.

HUMAN SOCIALIZATION

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- Starts at 7 weeks-ends around 12 weeks
- Time when most rapid learning occurs
- Greatest impact on future behavior will be made by any experience that happens at this time
- Puppies can still benefit from continuing socialization, but it's never as affective after 14 weeks

- **Breeder**

- **CRITICAL** period
- to maximize socialization
- Enroll in puppy class



FEAR IMPACT PERIOD

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- Falls within human socialization period 8-12 weeks
 - Anything that frightens a puppy could have more lasting effect
 - Around this time puppy's are easily frightened
 - Puppies learn from bad experiences-they remember the bad thing that happened to them
-
- **Breeder/Owner**
 - Avoid any potential circumstances you can't oversee
 - Take a trip to the vet(have staff give treats to the puppy) Take it just for exposure, no examine or shots

SECOND FEAR IMPACT PERIOD

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- Can occur before puberty(5-9 months) but could occur between(5-12 months)
- Lasts about 3 weeks
- May all of a sudden be afraid of new things, shy or timid of new people and things
- **Breeder/Owner**
 - Avoid any situations where your puppy is apprehensive
 - Build confidence though training and positive reinforcement
 - Do not put puppy in situations that are overwhelming

The DPCNA Wishes You Success!

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