



**ECVET Units as Initial or Additional Training to the European Veterinary Assistant Diploma
No. 2016-1-LV01-KA202-022652**

Artificial Insemination

Insemination of rabbits

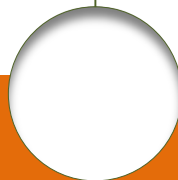


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Advantages of rabbit's insemination

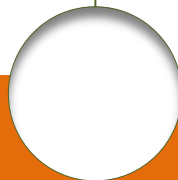
- infectious-prophylactic and breeding aspects
- from one stud male semen weekly for insemination of 100 females – up to 25 000 young rabbits a year
- after 4 hours semen collection, dilution and insemination of 80 females
- in natural breeding mating ratio 1:8 up to 10, during insemination 1:30-50
- insemination inconvenient at the first dimpling



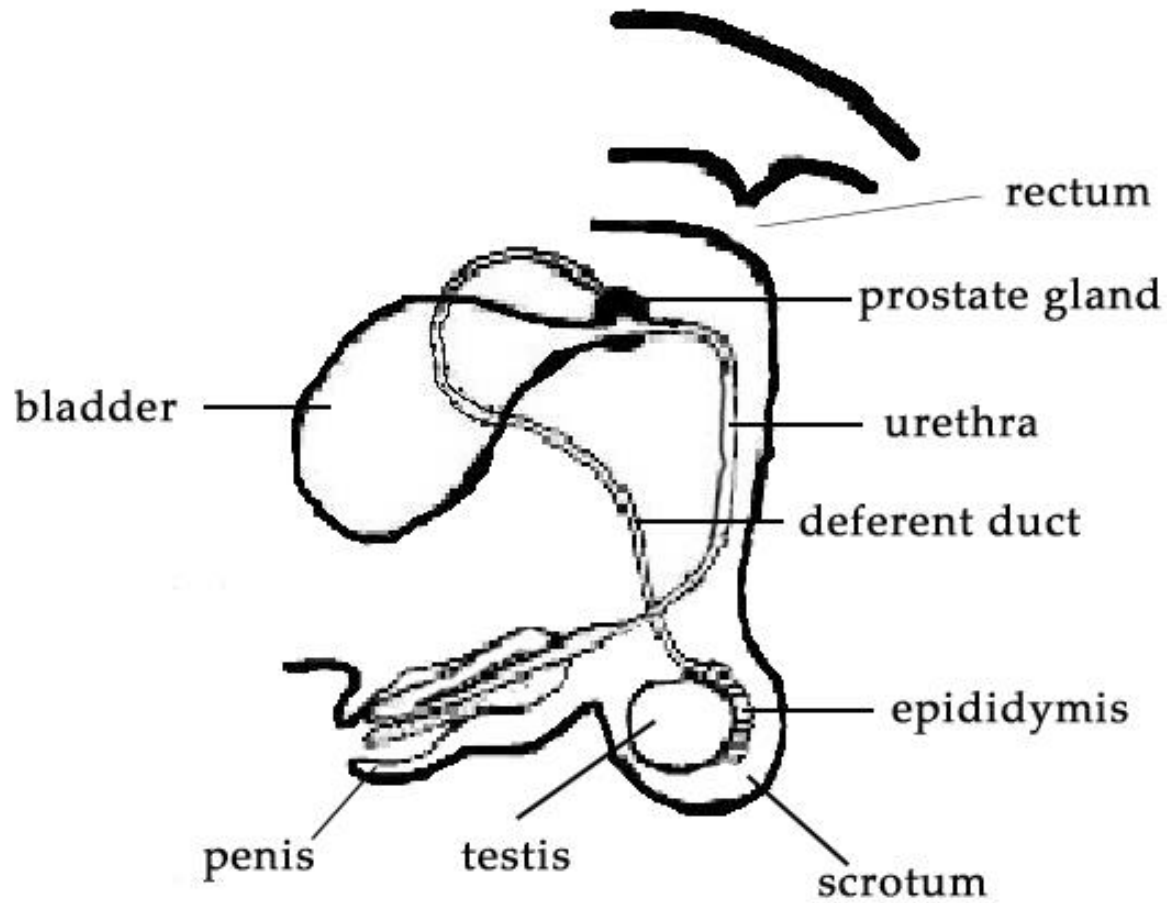
Reproduction of rabbits

MALES:

- **spermatogenesis begins on the 40th - 50th day of age**
- **on the 110th day of age semen presents in ejaculate**
- **on the 60th - 70th day manifestations of sexual behaviour**
- **breeding maturity at 32 weeks**



Anatomy of genitals of rabbits- Male's genitals

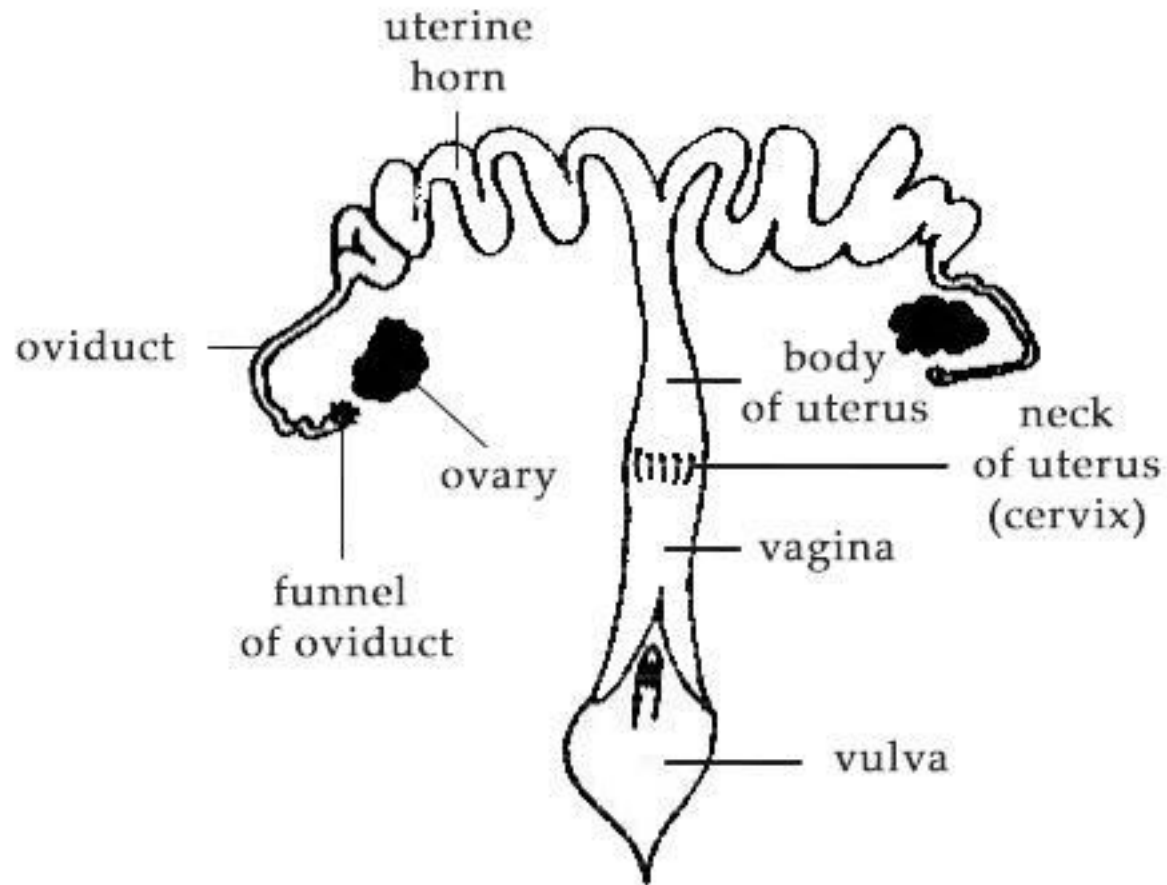


Reproduction of rabbits

FEMALES:

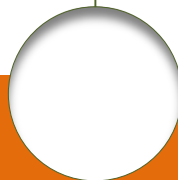
- follicular growth on the 13th day of age
- sexual maturity 10th-12th week of age (70-75% of mature weight)
- breeding maturity 80% of adult weight
- provoked ovulation
- heat: characteristic position, flexing of spine and lifting the stern
- follicles which were not ovulated subject to regression

Anatomy of genitals of rabbits- Female's genitals



Sampling of semen

- artificial vagina, temperature 46-48°C
- during sampling skin of rabbit on hand, artificial vagina under female in heat
- before sampling sterilization of vagina is necessary
- hold female's ears, vagina under female, at male's jump and searching slide the vagina on penis
- frequency of sampling: 5 times a week with one day breaks after 23 samplings

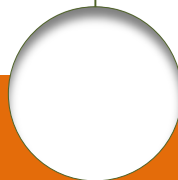


Quality assessment of semen

- **stable parameters (stable environment) at males on factory farms**
- **density of semen decreases at males in retail in autumn and winter**
- **microscopic assessment: cubic capacity, consistency, scent, colour, admixtures**
- **cubic capacity of ejaculate: 1 cm³ of liquid portion+2g of gel**

Quality assessment of semen

- **density:**
 - **very dense: more than 900 000 sperms in mm^{-3}**
 - **dense: 600 – 900 000 sperms in mm^{-3}**
 - **thin: 400 – 600 000 sperms in mm^{-3}**
 - **oligosperms: up to 200 000 sperms in mm^{-3} : inconvenient for insemination**
- **activity: requirement over 50%**

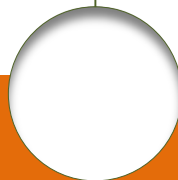


Dilution of semen

- **concentration of sperms for insemination: 70 000 sperms in 1 mm³ (minimum 50 000)**
- **semen with concentration of 800 000 sperms in 1mm³ dilute 1:5 = 10 – 12 ID with cubic capacity of 1ml**
- **dilution with physiologic solution at a temperature of 28-30°C → insemination by 1h after collection**
- **short-term thinners: cow milk, yolk-citrate thinner: conservation at 5°C**
- **long-term conservation: thinners with higher content of glycerine, mobility after defrost min. 30%**

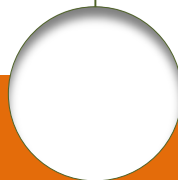
Insemination

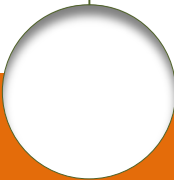
- **finding out the heat: 24h after birth the heat follows, assessing the colour of vulva (red-purple)**
- **if we do not carry out insemination by 48h after the birth or the 2nd-5th day after weaning young rabbits → hormonal stimulation (serous gonadotropine)**
- **5 hours before insemination stimulation of ovulation: supergestran**
- **grab the female for the tail, leaning position, front legs on the mat**



Insemination

- pipette into vagina parallel with spine
- percentage of pregnancy after 12 days 75%, embryonal mortality is often total pregnancy is optimal over 69%





Bibliography

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