CALCULATION OF SEMEN VOLUME IN STRAW FOR CRYOPRESERVATION

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Volume of Semen Extender & Number of Straws

Example:

- Volume of nett semen = 6 ml
- Semen concentration = 1,750 x 10^6 sperm/ml
- Straws a) 0.25 ml

  b) 0.50 ml

Determine concentration of semen to be pack in straw between 20-50 x 10^6 sperm/straw

Method A

If, 0.25 ml straw to be used and pack at 30 x 106 sperm/straw

Semen Extender

C1 x V1 = C2 x V2 (note: using basic chemistry formula, make sure the units are the same)

$1{,}750 \times 10^6$ sperm/ml x 6 ml = (4 x 30 $\times 10^6$ sperm/straw) x V2

$1{,}750 \times 10^6$ sperm/ml x 6 ml = 120 $\times 10^6$ sperm/ml x V2

V2 = $1{,}750 \times 10^6$ sperm/ml x 6 ml ÷ 120 $\times 10^6$ sperm/ml

V2 = 87.5 ml

∴ semen extender needed = 87.5 ml - 6 ml

= 81.5 ml

Number of straws = 87.5 ml ÷ 0.25 ml

= 350 straws

Method B

If, 0.25 ml straw to be used and pack at 30 x 10^6 sperm/straw

Number of straws

1,750 x 10^6 sperm/ml x 6 ml = 10,500 x 10^6 sperms

10,500 x 10^6 sperms ÷ 30 x 10^6 sperms = 350 straws

Semen Extender

350 x 0.25 ml = 87.5 ml

∴ semen extender needed = 87.5 ml - 6 ml

= 81.5 ml