DEMOGRAPHY

Birth Rate / Natality

Biotical part of Natality/Fertility

$$\text{Birth Rate} = \frac{\text{Total No of birth}}{\text{initial population}}$$

Natality

Q Pond → 20 Lotus-year

8 New plant

$$= \frac{\text{Total birth}}{\text{initial population}} = \frac{8}{20}$$

$$= \frac{8}{20} = 0.4$$

Mortality / Death Rate

$$d = \frac{\text{Total No of Death}}{\text{initial population}}$$

Mortality

Q Fruit fly = 40 week

(4) individu

$$d = \frac{\text{Total Death}}{\text{initial population}}$$

$$d = \frac{4}{40} = 0.1$$

GROWTH RATE

$r = b - d$ — Birth Rate − death Rate

Growth Rate $= \frac{\Delta N}{\Delta t}$

$(r) = b - d = \frac{dN}{dt} = \frac{\Delta N}{\Delta t}$

$r = \frac{\frac{\Delta N}{\Delta t}}{N_0} \times 100$

$\frac{dN}{dt} \times 100$ / N_0

Q If population of Rabbit is kota 500 in 2001 Growth rate of Rabbit in 35% is find out population in 2015?

Growth Rate $= \frac{r}{N_0} \times 100$

2001 − 2015 ?

35% → Growth Rate

$N_0 = 500$ (2001 − 2015)?

$\% = \frac{GR}{N_0} \times 100$

$GR = \frac{35 \times 500}{100}$

$GR = 175$

$GR = \frac{dN}{dt} \times \Delta t$

$= 175 \times 14$

$= 2450$

POP 2015 ? initial

$2450 + 500$

$= 2950$