

The logo for aglaem features the word "aglaem" in a stylized, rounded font. The letters "a", "g", "l", and "e" are dark teal, while the "s" and "m" are yellow. Below the main text, the tagline "Helping Student Community" is written in a smaller, yellow, sans-serif font.

aglaem
Helping Student Community

REPRODUCTION IN ORGANISM

LIFE SPAN

ORGANISMS	LIFE SPAN
May fly	1 day
Butter fly	1-2 weeks
crow	15 years
crocodile	60 years
man	100years
parrot	140 years
tortoise	100-150 years
Wheat plant	6 months
Banyan tree	200 years

TYPES OF REPRODUCTION

ASEXUAL	SEXUAL
A single parent is involved.	Two parents (a male and a female)
No formation or fusion of gametes	Formation and fusion of gametes
Involves mitotic division	Involves meiosis
Individuals are genetically identical i.e. clone	Individuals show variation i.e. offspring

MODES OF ASEYUAL REPRODUCTION

- Fission- (a) binary (b) multiple
- Budding
- Spore formation
- Vegetative propagation

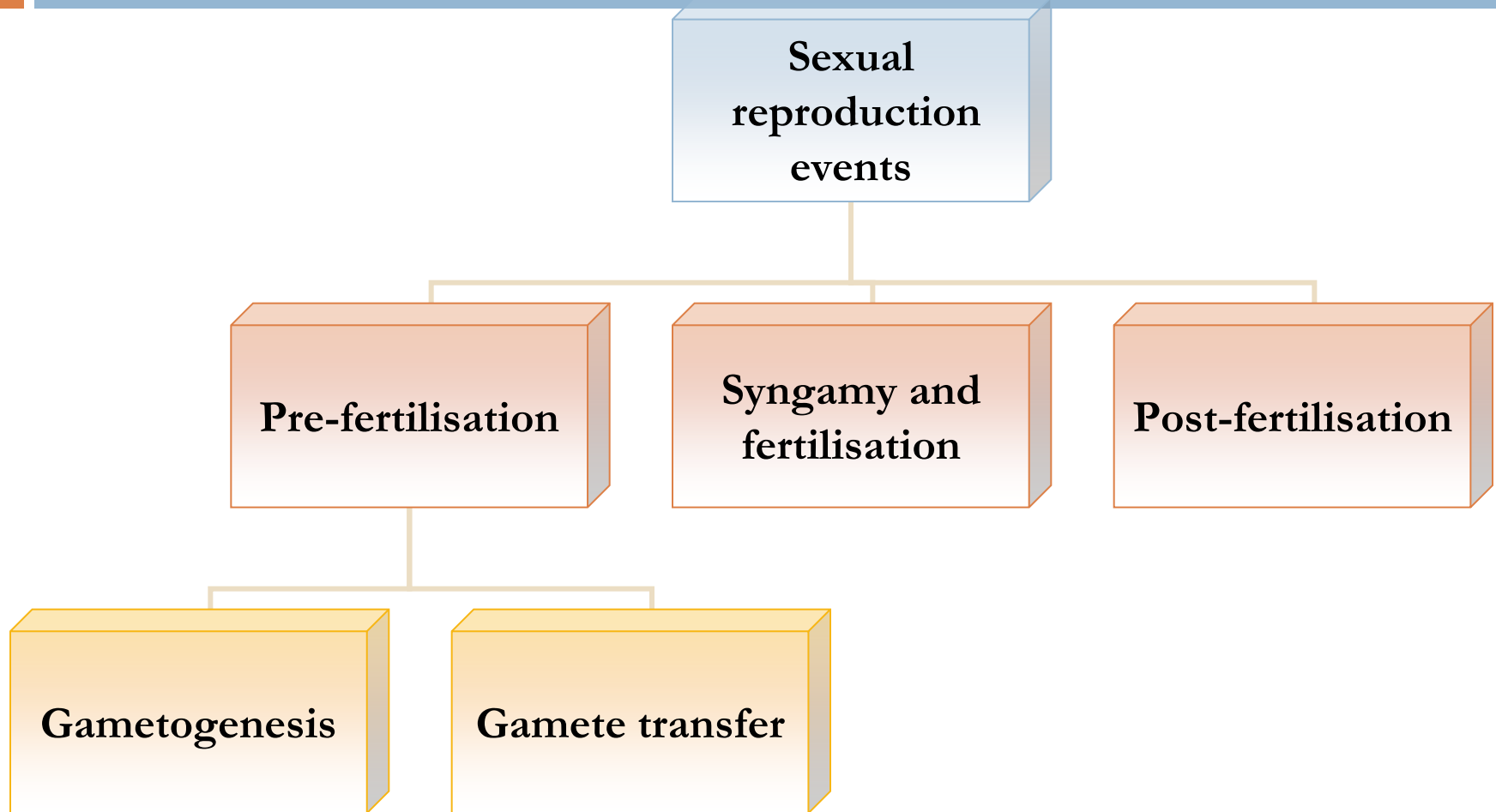
ASEXUAL REPRODUCTIVE STRUCTURES

- Motile microscopic zoospores - (*chlamydomonas*)
- Conidia (*penicillium*)
- Buds (hydra)
- Gemmules- (sponges)

VEGETATIVE PROPAGULES

- Runner- *oxalis*
- Sucker
- Tuber- potato
- Offset- *water hyacinth, pistia*
- Bulb- onion, garlic
- Rhizome- ginger
- Bulbil- agave
- Leaf buds- *Bryophyllum*

SEXUAL REPRODUCTION



PRE-FERTILISATION CHANGES

(a) gametogenesis

- It is the process of formation of haploid male and female gametes.
- Gametes may be **homogametes (isogametes)** or **heterogametes**.
- In heterogametes the male gamete is called **antherozoid or sperm** and the female gamete is called the **ovum**.

PRE-FERTILISATION CHANGES

(a) gametogenesis

- If the parent body is haploid gametes are formed by mitosis, if diploid gametes are formed by meiosis.
- An organism may be homothallic/monoecious or heterothallic/dioecious.

PRE –FERTILIZATION CHANGES

(b) gamete transfer

- ❑ Fusion of male and female gamete is called fertilisation.
- ❑ So male and female gamete must be brought together.
- ❑ In some organisms both gametes are motile (algae) but in most cases male gamete is motile where as female is not.
- ❑ Algae, bryophytes and pteridophytes, water is the medium for gamete transfer

PRE –FERTILIZATION CHANGES

(b) gamete transfer

- Pollination is the method of gamete transfer in higher plants as pollen grains contain male gametes.
- The number of male gametes are thousand times the number of female gametes as there is loss of male gametes during transfer.
- In dioecious animals there is special mechanism for gamete transfer.

SYNGAMY AND FERTILISATION

- It results in the formation of diploid zygote.
- In some animals like rotifers, honey bees, some lizards and birds (turkey) female gametes develop in to organism without fertilisation, such a phenomenon is called parthenogenesis.

POST-FERTILISATION EVENTS

- The events after zygote formation is called post-fertilisation events.
- Zygote development (i) type of life cycle of organism and (ii) the environment it is exposed to.
- In algae and fungi it develops a thick wall around it to resist desiccations and damage and undergoes a period of rest.

POST-FERTILISATION EVENTS

- Organisms showing haplontic life cycle, zygote undergoes meiosis. While organisms showing diplontic life-cycle undergoes mitosis.
- The zygote develops into an embryo.
- Embryogenesis involves (i) cell division (ii) cell enlargement or growth (iii) cell differentiation.
- In oviparous animals zygote development occurs outside of female's body, they are egg laying e.g. reptiles, birds.

POST-FERTILISATION EVENTS

- In viviparous animals zygote development occurs inside of female's body. They give birth to young individuals. E.g. mammals
- In plants zygote is formed inside ovule, where it develops into embryo, then ovule becomes seed and ovary into fruit.
- Germination of seeds produce new plants.

TYPES OF FERTILISATION

EXTERNAL FERTILISATION	INTERNAL FERTILISATION
Syngamy occurs outside of the body of organisms.	Syngamy occurs inside of the body of organisms.
Large number of gametes (male & female) are released into surrounding medium. E.g. bony fish, amphibians	Number of ova are less, but large number of male gametes are formed. E.g. birds, mammals, earthworm.

TYPES OF ANIMALS

OVIPAROUS	VIVIPAROUS
Animals lay fertilise or unfertilised eggs.	Give birth to young individuals.
Eggs have calcareous shell to protect from the harsh environment.	No shell, they are protected inside the mother's body.

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