DIAPAUSE AND NON-DIAPAUSE EGG IN SILKWORM

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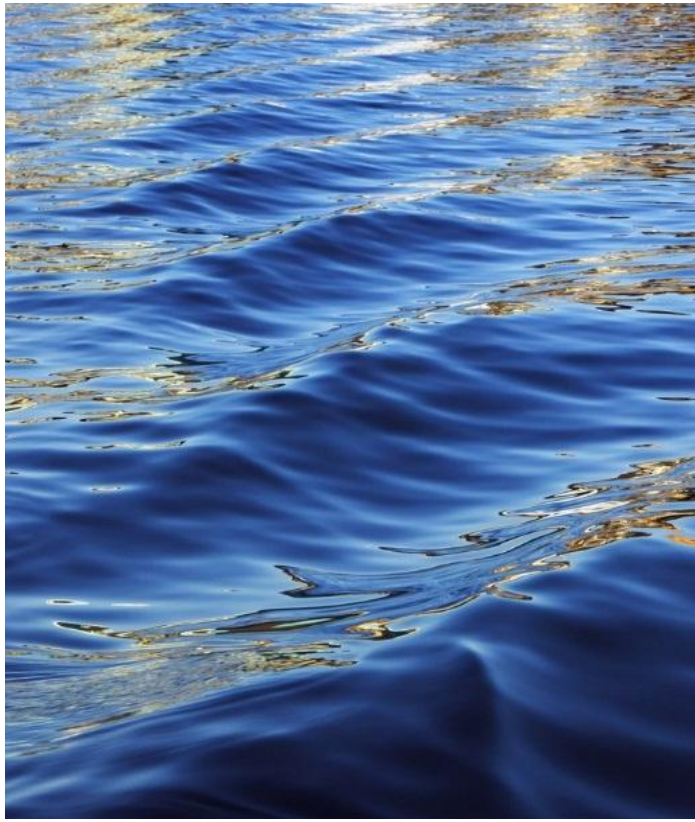
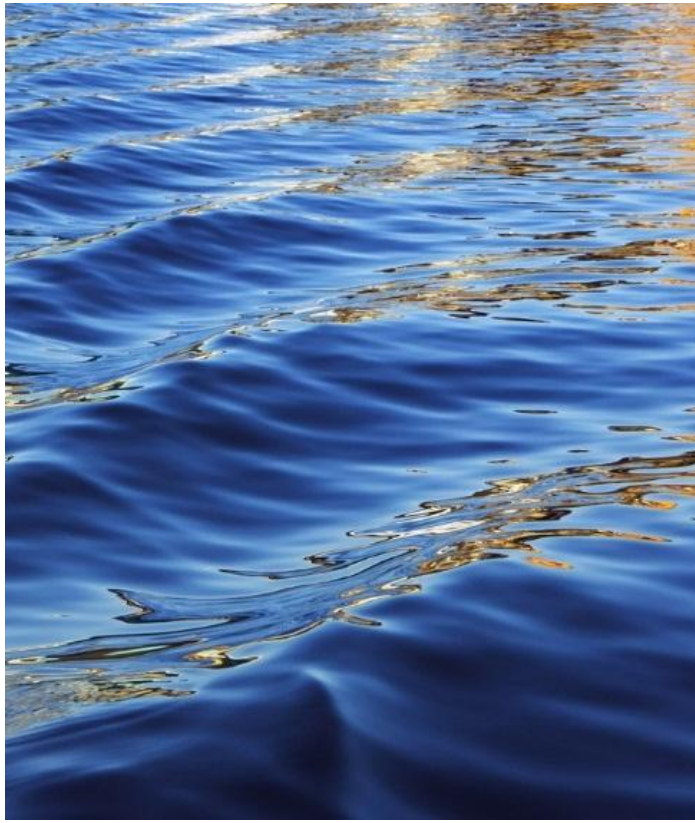


INTRO TO DIAPAUSE EGGS



DIAPAUSE EGGS

- The word diapause means the development is suspended for a particular period of time.
- In the case of silkworm (Bombyx mori) this stage occurs in the egg stage which pause the development of the larva due to the environmental conditions, genetic factors, etc.
- The diapause hormone (DH) it is responsible for the formation of the diapause eggs in the silkworm.

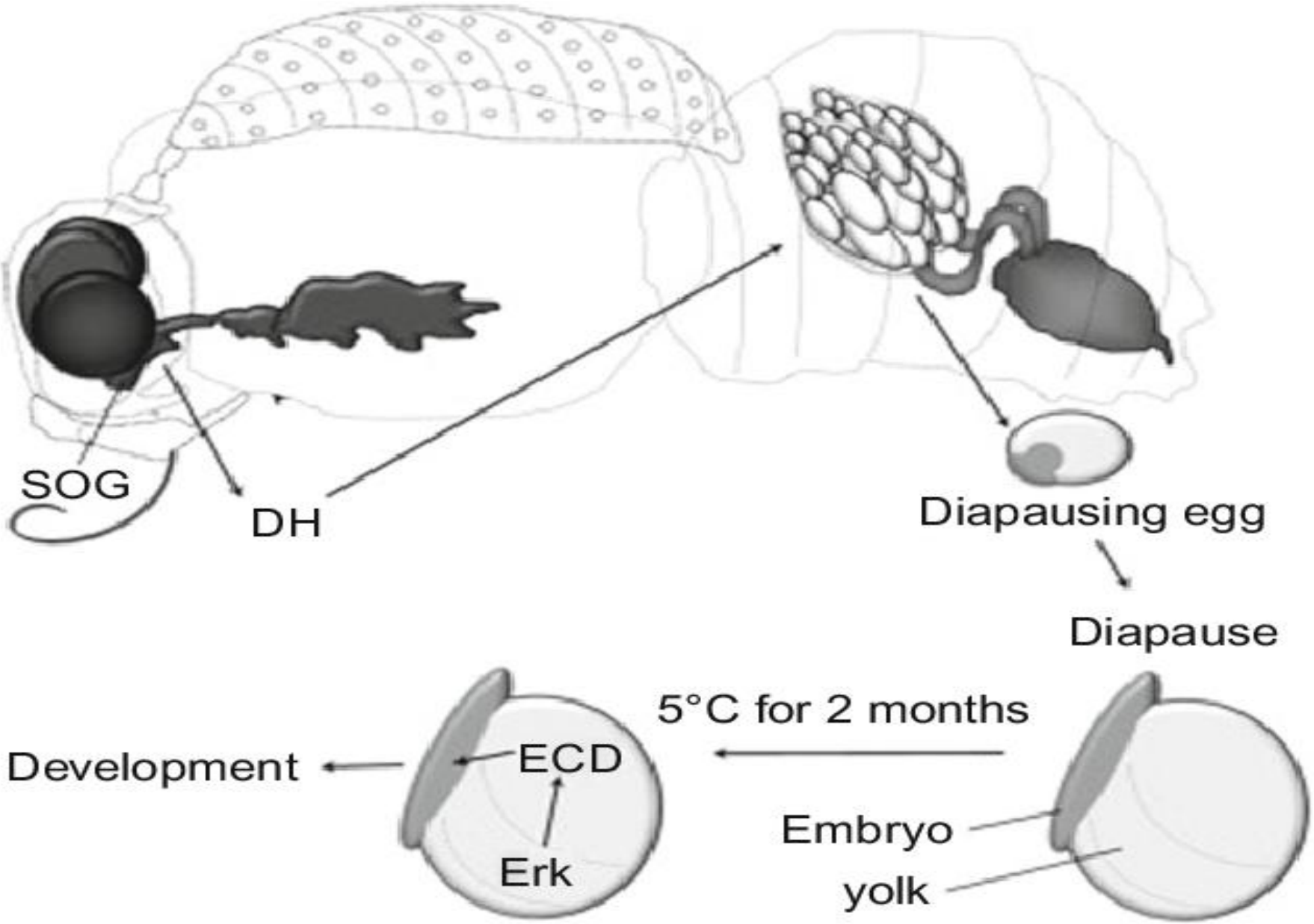
Advantages and Disadvantages

Advantages

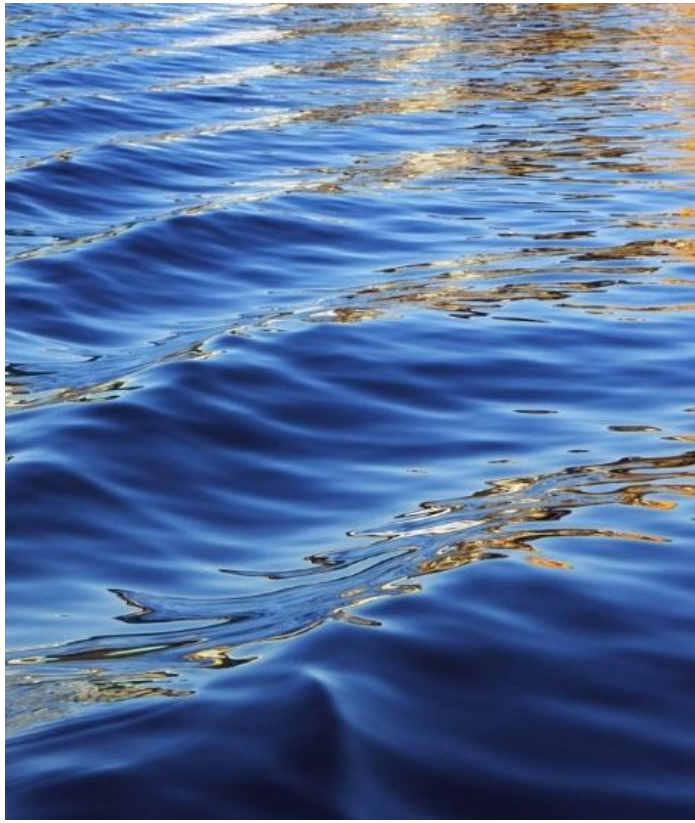
- Due to this diapause eggs helps to withstand the adverse conditions.
- Delaying in hatching leads to the synchronized hatching in the larvae.
- Diapause eggs stored for long period of time which helps the farmers in production of silkworm.
- Diapause eggs adapts to the seasonal changes.

Disadvantages

- Due to diapause eggs it delays the silk productions.
- Due its nature it requires the special conditions for storage.
- Diapause eggs hatches the depends on the environmental conditions.
- Unexpected environmental changes or improper storage can make it difficult to predict the exact time when the eggs will resume development, causing complications in planning.


SOG
DH
Diapausing egg
Diapause
5°C for 2 months
Development
ECD
Erk
Embryo
yolk

NON DIAPAUSE EGG IN SILKWORM



NON DIAPAUSE EGGS

- Non-diapause eggs in silkworms are eggs that do not enter a dormant or suspended state.
- They develop and hatch soon after being laid, without the need for a prolonged waiting period.
- Non-diapause eggs are typically produced by silkworms reared in controlled environments, where temperature, light, and other factors can be optimized for continuous development.

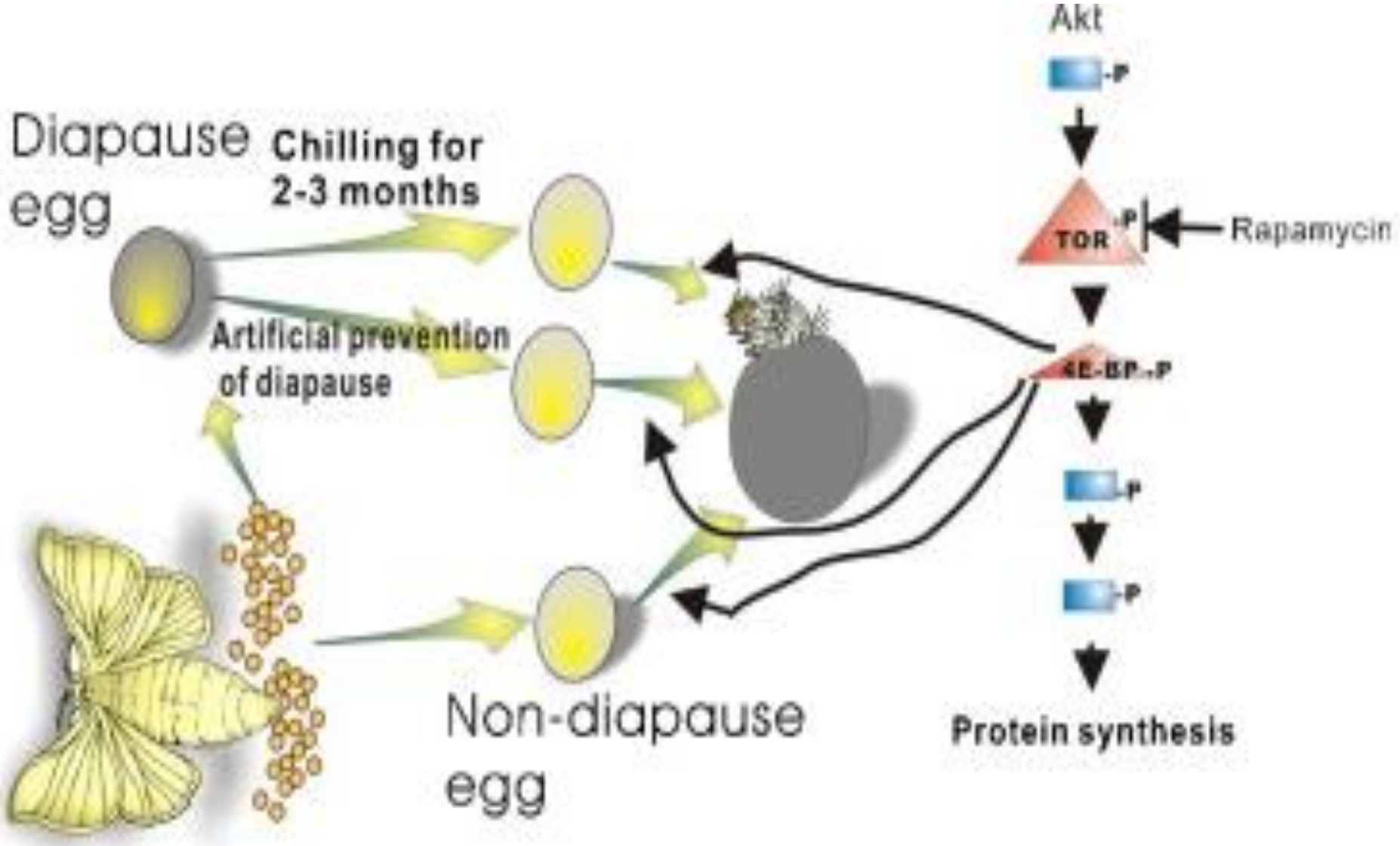
ADVANTAGES AND DISADVANTAGES

Advantages

- It has the faster life cycle than the diapause eggs
- Due to its fast life cycle it increases the silk production.
- The hatching is done in a controlled environment helps us to predict and management.
- Helps the farmers to breed the silkworm throughout the year and supply to the market demands.

Disadvantages

- Due to the early hatching they are vulnerable to the environment.
- It cannot be reared outside due to its fast development.
- These are less adaptable to the natural seasonal variations.
- Due to use of artificial management it leads to over productions and cause storage problem.


Diapause egg
Chilling for 2-3 months
Artificial prevention of diapause
Non-diapause egg
Akt
-P
TOR
-P
Rapamycin
4E-BP-P
-P
-P
Protein synthesis


thanks!