

General diagnosis of fish diseases



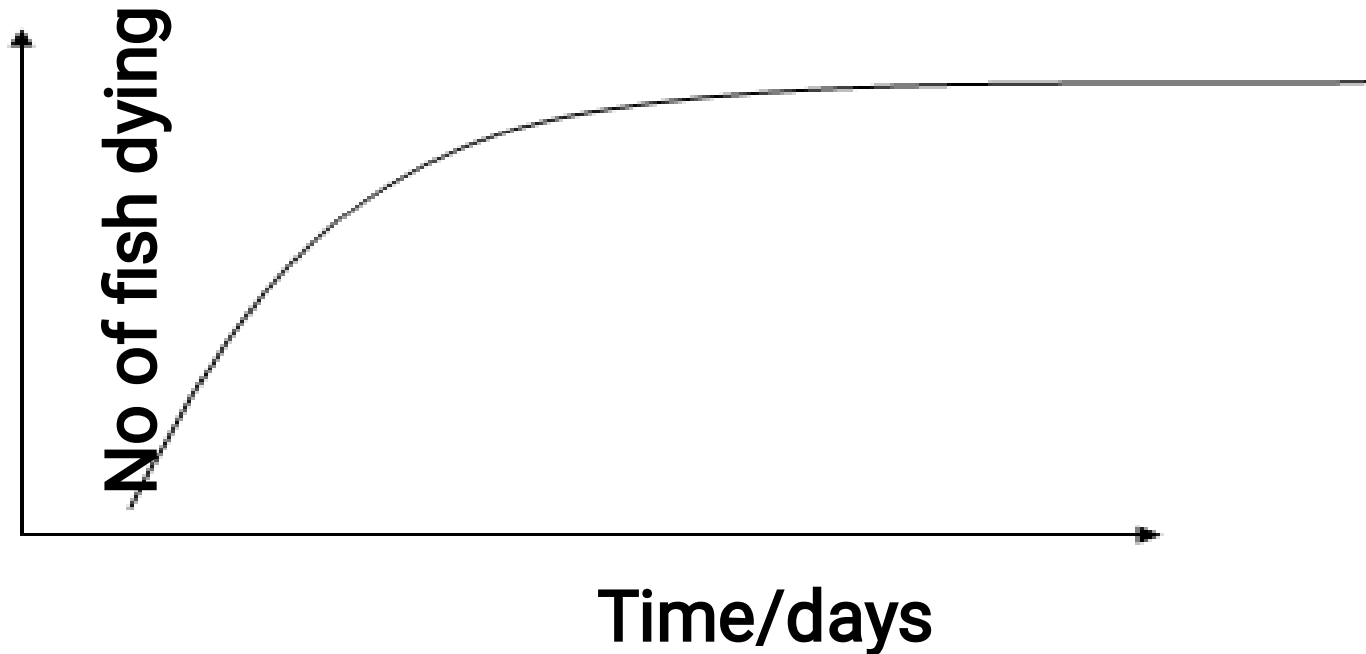
Diagram

- ⊠ **Case History.**
- ⊠ **Fish Sampling.**
- ⊠ **Clinical Signs and Reflexes.**
- ⊠ **Blood Exam.**
- ⊠ **PM Exam.**
- ⊠ **Isolation and Identification.**
- ⊠ **Animal Inoculation.**

Case history

- ⊠ Owner's data
- ⊠ Fish farm
 - construction
 - stocking density
 - water quality
- ⊠ Fish
 - (species, age and sex)
 - fresh or marine fish
- ⊠ Previous treatment and vaccination
- ⊠ Course of the disease and mortality pattern

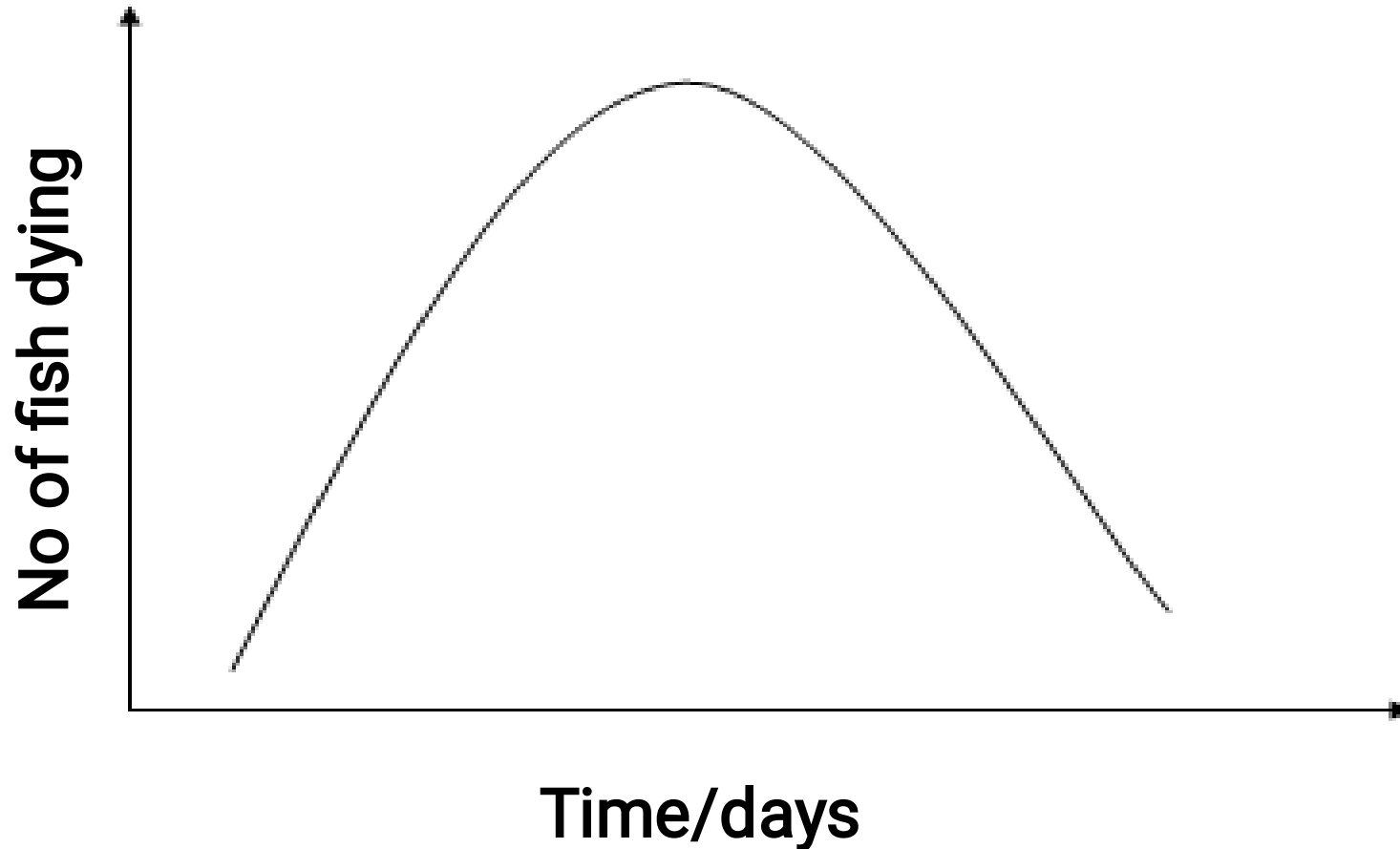
Patterns of mortality



mortality built up from low number reaching peak and remain at this high level (**nutritional deficiency**)

Patterns of

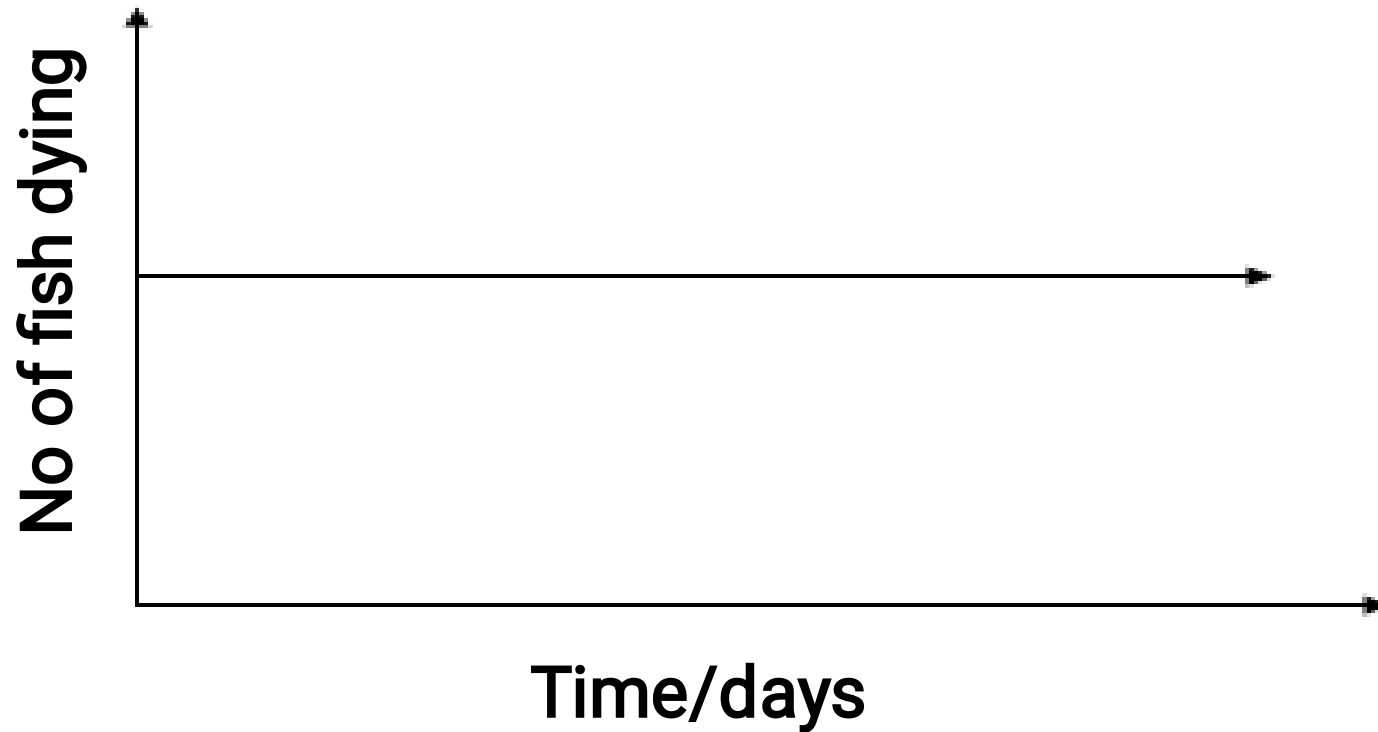
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mortality built up from low number reaching peak then decline (**microbial infection ,viral or bacterial**)

Patterns of

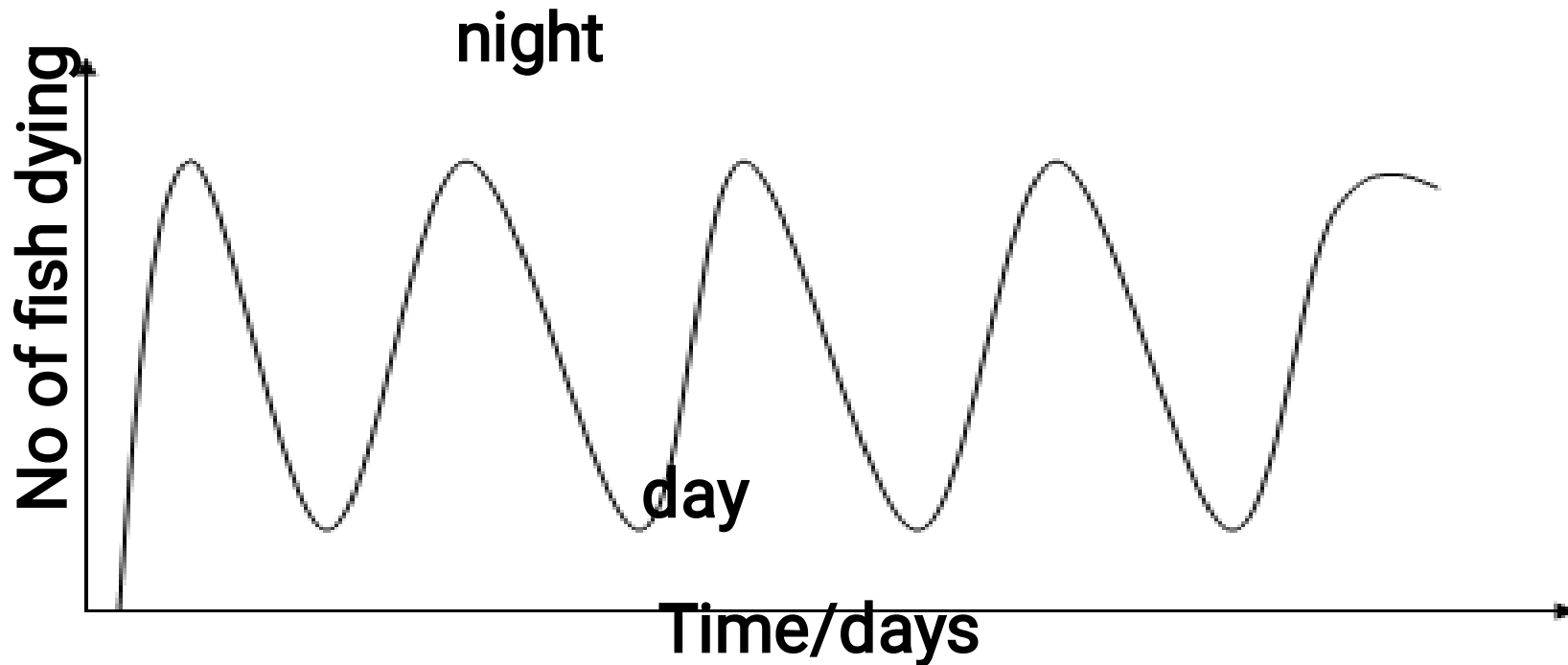
mortality



Extended course of mortality and fish die over this extended period (**chronic**)....(**parasitic infection**)

Patterns of

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Mortalities occur in early morning and decline by the day, large fish die firstly.....(**low D.O**)

Patterns of mortality

- ⊠ Mortalities occur at any time of the day
- ⊠ All aquatic life affected
- ⊠ Small fish die firstly
- ⊠ Fish showing signs of convulsion and loss of equilibrium...(toxicants or poisoning)

Fish sampling

- Show the most common signs
- ☒ representative for the whole population(number ,size and signs)
- ☒ include the healthy looking fish, clinically diseased fish, moribund fish and recently dead fish (not more than 60 minutes post-mortem)
- ☒ Immediate examination
- ☒ Suitable method of preservation

Methods of preservation

☒ **Chilling:**

When freezing will destroy the usefulness of the sample.

➤ **e.g.**

1. Blood sample (1 day).
2. Fish or fish parts (few hours). **Bacteria & parasite**

➤ **Method:**

(Refrigerator or Wet ice).

Methods of preservation

☒ **Freezing:**

When the living organism is thought to be present in the sample and destruction of tissue cells is not important.

➤ e.g.

1. Microbial infection.

2. Viral diseases

3. Toxicity

➤ **Method: (Freezer or Dry ice).**

Methods of preservation

☒ **Chemical:**

- When the viability of the organism is not necessary.
- Tissue is needed for histopathology.
- Sample must be small enough.
- formaline 10%

☒ **Drying:**

- e.g. Blood film.

Absolute alcohol

Thank You

The slide features a white background with abstract green geometric shapes on the left and right sides. The shapes are composed of various shades of green, from light to dark, and are arranged in a way that creates a sense of depth and movement. The text 'Thank You' is centered in a bold, green, sans-serif font.