
GLOSSARY

Antibody A protein produced in the body of a vertebrate animal in response to contact of the body with an antigen (an enzyme or toxin associated with a pathogen), serving to neutralize the antigen, thus creating immunity.

Bacteria One-celled microorganisms, larger than viruses, that occur in many forms. Some bacteria cause disease, but many are beneficial. (Singular = bacterium)

Cilia Hairlike outgrowths on the borders of some cells. (Singular = cilium)

Culture medium A substance, solid or liquid, used to grow microorganisms.

Electron microscopy Technique used to produce very highly magnified images of an object. The electron microscope focuses a beam of electrons through a magnetic field to produce a high-resolution image of an object on a fluorescent screen or photographic plate.

Enzootic Denoting a disease of animals which is indigenous to a certain locality, used synonymously with endemic.

Epithelium Cellular tissue covering surfaces, forming glands and lining most cavities of the body.

Epizootic Denoting a disease attacking a large number of animals simultaneously, or the prevalence of a disease; similar to an epidemic among humans.

Etiology The study of the causes of disease.

Flagellum A whiplike organ of locomotion in certain bacteria, protozoans, etc. (Plural = flagella)

Histology The branch of biology concerned with the microscopic study of the structure of tissues.

Host The organism in which or on which another organism grows and derives nourishment. (See **parasite** and **opportunistic**)

Immune system The complex of structures and functions of an organism that make it resistant to disease.

Indigenous Native; natural to area where found.

Infectious Designating a disease that can be communicated by contact with a disease-producing organism such as a virus or bacterium.

Lesion A pathologic change in the tissue.

Mantle The outer layer of tissue which enfolds all of the inner organs of a bivalve; the pallium.

Necrotic Denoting dead tissue.

Neoplasia The pathologic process resulting in the formation and growth of a neoplasm (a tumor, possibly malignant).

Opportunistic Denoting an organism capable of causing disease only in a host whose resistance is lowered, for example, by another disease.

Organism Any living individual taken as a whole.

Pallial surface The interior surface of the shell against which the mantle lies.

Parasite An organism that lives on or in another and draws its nourishment from it. The organism which is parasitized is termed the *host*.

Pathogen Something causing a disease, e.g., a virus, bacterium, etc.

Pathology Science concerned with the study of disease including the nature and cause as well as the structural and functional changes resulting from the disease process.

Prevalence The number of existing cases of a disease in a given population at a specific time.

Salinity The degree of saltiness of a substance. The salinity of oceanic seawater is about 32 parts per thousand.

Serological Relating to the branch of science concerned with serum, especially with specific immune serum. Serum is the fluid portion of vertebrate animal blood obtained after removing the fibrin clot and blood cells.

Sterile technique Method which is necessary to cultivate bacteria, viruses, and other microorganisms without extraneous contamination. Requires the use of sterilized instruments and culture containers, a clean isolated work place, and a gas flame for sterilization of instruments used in the procedures.

Ultrastructure Detailed microscopic structure or particles seen with the electron microscope.

Veliger The free-swimming stage of a bivalve larva.

Velum The veillike membrane that projects between the valves of a larval bivalve at the veliger stage. It bears cilia used for swimming, eating and respiration.

Virus A very small microorganism composed of an outer protein and a nucleic acid core. Viruses can grow and reproduce only within living cells.

Viscera The internal organs of the body.

Wet mount A preparation of living cells or tissue for microscopic examination, as opposed to cells or tissues that have been preserved and stained.

Shellfish farmers have become increasingly aware of the role of infectious diseases in decreasing productivity and raising costs in their commercial operations. The depletion of their stocks by what they may once have accepted as "natural mortality" they now see as having a biological explanation: diseases caused by microorganisms such as viruses, bacteria, and parasites.

By learning about the diseases and the aquaculture practices that can aggravate or inhibit them, shellfish farmers can enhance the productivity and profit of their businesses. The key is knowledge, and it is to that concept that this guide is dedicated.

The author, Ralph Elston, senior research biologist at the Battelle Marine Research Laboratory in Sequim, Washington, is respected worldwide for his expertise in shellfish pathology.

