

BIOTIC FACTORS

These are living organisms that affect agricultural production. They include predators, parasites, soil organisms (macro and micro-organisms), pests, disease pathogens and weeds.

Predators: These are organisms that feed on other organisms. Predators may include lizards, toads, hawks, tigers and lions while prey includes goats, chickens, and insects.

Some of them cause a great loss in the livestock industry.

Some predators are used to control some pests of crops and animals.

Parasites: A parasite is an organism that lives in or on another organism called a host.

It derives nourishment from the host while the host is injured during the association.

It transmits certain diseases to the host, e.g. babesiosis which is transmitted by ticks.

Parasites can live inside the host as **endo-parasites** such as tapeworm, roundworm and liver fluke.

They may also live outside the host as **ecto-parasites** such as ticks, lice and mites.

Parasites can also be plants such as parasitic weeds/ epiphytic like dodder and mistletoe.

They reduce the quantity and quality of agricultural products. They may eventually lead to the death of plants and animals if not controlled on time.

Soil Organisms: these are living organisms inhabiting the soil. They include microorganisms like bacteria, fungi and viruses and macroorganisms such as earthworms, rodents, crickets, millipedes, termites and snails etc.

Some of them cause diseases in farm animals and crop plants. For example bacteria and fungi cause diseases. Their activities can reduce the quality and quantity of agricultural yields.

Some of them are also beneficial in agricultural production. For example

Nitrogen fixing bacteria in the soil.

Fungi can help in humus formation and the decomposition of plant materials.

Some soil organisms also aid soil aeration, water percolation and fertility of the

soil.

They help to breakdown organic matter in the soil and help in microbial digestion.

Pests: Pests are those organisms that cause physical damages to crop plants. They include birds, rodents

They can attack crops while still growing on the field or during storage.

They can reduce yields of crops and animals.

They may increase cost of production

They reduce farmer's income due to their effects on animals and crop yield.

Some pests are vectors of diseases.

Weeds: weeds are plants growing where they are not desired.

They compete with crops for water, space, light and food nutrients. Some weeds are poisonous to livestock.

They increase cost of production

it can also act as hosts for certain crop pests.

Pathogen: these are diseases causing organism e.g. bacteria, viruses, fungi, protozoa, nematodes.

It increase the cost of production

It reduce production yield

It reduce farmers income

It can lead to death of plants and animals