

Essay on pathogenic and non-pathogenic organisms

[Environment](#), [Animals](#)



Pathogenic and Non-pathogenic Organisms

Salmonella enterica is a gram-negative rod, which flagellated. It is a member of the enteriobacteriaceae family and it has six subspecies. The bacteria usually reside in poikilothermic animals (PHAC, 2010). The bacteria has various serotypes which are characterized by surface antigens it includes the H antigen which is a flagellar antigen, the O antigen which is the Oligosaccharide antigen and the Vi antigen which is the polysaccharide antigen. Salmonella enterica is a facultative anaerobic organism. it is a motile, non-sporulating rod. the organism is a glucose and mannose fermenter. it does not produce gas and does not ferment lactose or sucrose. Most salmonellae produce Hydrogen Sulphide gas. They are often pathogenic for humans or animals when ingested (PHAC, 2010)

Salmonella enterica is mainly found in the intestines of animals and humans. vectors include poultry and poultry products, swine, beef, cattle, dairy products and sometimes rodents. salmonella enterica can survive in the gastrointestinal tract of animals as part of the intestinal flora without causing any pathology however; they can infect other animals, humans, fruits and vegetables after being passed out of stool. reproduction of the bacteria occurs in the gastrointestinal tract of its vectors at an optimum temperature of 37 degrees Celsius. this informs the reason why it can be found in soil, water and human waste (PHAC, 2010).

Lactococcus lactis is a gram-positive bacterium, which is spherical shaped. its cells may group up in pairs or short chains, depending on the conditions

for its growth. the bacteria are a non-motile, non-sporulating organism. they are characteristically lactic acid producers. the bacteria are mainly isolated from dairy environment. the organism is very important in the dairy industry (Todar. 2012).

Lactococcus lactis is an opportunistic bacterium. It primarily lives in the environment, it is normally found on residing on wild plants (Todar. 2012). after it is ingested, it is found in the gastrointestinal system of animals. the bacteria is also found shed in faces for about three days.

The similarities between the two organisms are that they are both found in the environment. while salmonella enterica is found shed in faces of animals and man, Lactococcus lactis can also be found in the faces of animals that have ingested it for a brief period. Another similarity is that both bacteria are found in the gastrointestinal system of animals and plants, they are enteric organisms.

Differences in the two organisms include the fact that Salmonella enterica is a facultative organism. It cannot survive outside of the host for a long period, unlike Lactococcus lactis, which can survive for long periods in the environment, and is only an opportunistic organism when found in the gastrointestinal system. Also, unlike Lactococcus lactis, which is useful to man in making dairy products and it is not considered harmful if it is found in it however, the presence of Salmonella enterica in any food material at all, would mean that the food is already contaminated, therefore is not fit for human consumption (PHAC, 2010).

REFERENCES

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