

Listeria and rockmelons

There have been cases of foodborne illness linked to rockmelons contaminated with bacteria (*Salmonella* and *Listeria*).

How did the rockmelons get contaminated?

Rockmelons have a wrinkled surface that can potentially trap bacteria, and when it is cut, the bacteria can be transferred from the skin to the flesh of the fruit, which is a perfect place for bacterial growth.

The surface of rockmelons can become contaminated with bacteria such as *Listeria* by dirty water, direct contact with organic fertilisers, pests or animals in the field, or if they are not properly washed before sale.

What is *Listeria*?

Listeria monocytogenes is a very hardy bacterium that can, under certain circumstances, cause listeriosis in humans.

This infection can have severe consequences for particular groups of the population. It can cause miscarriages in pregnant women and be fatal in immunocompromised individuals and the elderly.

Symptoms of listeriosis

Symptoms may include fever, headache, tiredness, aches and pains. Less common symptoms are diarrhoea, nausea and abdominal cramps. In pregnant women symptoms may be mild, but listeriosis can result in miscarriage, premature birth or, in rare cases, stillbirth.

If you have any concerns about symptoms or illness, please consult your medical practitioner.

Characteristics of *Listeria*

Listeria Monocytogenes is a particular concern in ready to eat foods such as fruit and vegetables. This is because it can survive at low temperatures (with a range of 1°C – 50°C) and even grow during chilling and refrigerated storage. It is, however, killed by heat such as that applied during conventional cooking.

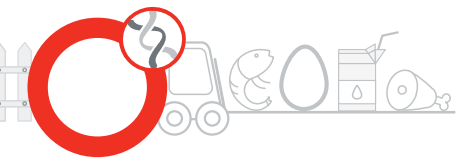
The organism is able to survive for long periods in soil, plants, water, surfaces and ingredients. It is also resistant to low pH and high salt concentrations and its growth is favoured by high humidity and low temperatures. This means that wet food processing environments are ideal sites for the bacteria to persist and grow, placing food at risk of being contaminated during and after processing.

Listeriosis can be a severe disease and it is associated with high fatality rates. This makes *Listeria* one of the most serious diseases linked to food production. However, the fact that it is widespread in nature and able to survive and grow at low temperatures means that it is unrealistic to expect all food to be *Listeria* free.

Biofilm information

Listeria readily attaches to food equipment and plant surfaces and forms a “biofilm” that can be very persistent.

The organism attaches to a surface and grows on that surface producing microcolonies. This surface covering is difficult to remove (e.g. can often require manual scrubbing).



Incubation period for Listeriosis (time taken for signs of illness to appear)

Listeria Monocytogenes has a long incubation period. The signs of listeriosis in humans can appear anywhere from 3 to 70 days after ingesting the bacteria. It can exist in the environment for long periods of time.

How is *Listeria* spread?

Listeria infection is mainly spread by eating contaminated foods. Unlike most bacteria, *Listeria* can multiply in refrigerated foods, if they have been contaminated.

If *Listeria* bacteria are present on the skin of the rockmelon they become a food safety risk when they're transferred from the skin to the flesh of the fruit that will be eaten.

Therefore, it's important to make sure the surface of the melon is as clean as it can be and when it's cut the fruit is eaten as soon as possible ideally within 48 hours.

This means that any bacteria that are transferred from the surface will not have limited opportunity to grow.

The following tips will assist to minimise the risk

For growers and processors:

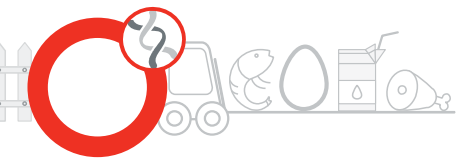
Listeria is widespread in nature and can easily be carried into your processing plant. Some of the ways include:

- via ingredients (both raw and treated);
- inwards goods (e.g. pallets, crates, vehicles);
- the external environment (e.g. air, dust, food and vehicle traffic);
- personnel (e.g. soil on worker's shoes and clothing, carriers); and
- animals and insects.

Once inside a processing facility *Listeria* can find the smallest niches to attach and grow.

Examples for *Listeria monocytogenes* in food processing facilities include:

- conveyor systems (angles, rollers, carriage trucks);
- fibrous conveyor belts;
- rubber seals (doors);
- insulation material;
- open bearings within equipment (slicers, strippers);
- peelers, casing equipment;
- hollow implements;
- rinse water (crates);
- chillers and refrigerated storage;



- washing tanks;
- whole vegetables/fruit incoming;
- floor drains;
- condensation and stagnant water;
- floors;
- processing equipment; and
- contaminated effluent.

Totally eliminating the risk of *Listeria* infection is not possible but it is crucial to reduce the risks.

The key to controlling *Listeria* is to:

- limit introduction of *Listeria* to your facility;
- employ diligent food handling practices and personal hygiene in order to limit opportunities for cross-contamination on to food; and
- carry out cleaning and sanitising to limit its growth.

Remember that *Listeria* can grow at low temperatures, can survive for long periods, is resistant to low pH and favours high humidity.

For consumers:

- do not purchase melons that are bruised or damaged. If buying fresh cut produce, ensure it is refrigerated or surrounded by ice;
- fresh produce should be refrigerated within 2 hours of peeling or cutting. Leftover cut produce should be discarded if left at room temperature for more than 2 hours;
- wash hands with hot soapy water before and after handling fresh rockmelons;
- cutting boards, dishes, utensils, and counter tops should always be washed with hot soapy water and cleaned after coming in contact with fresh produce, or raw meat, poultry, or seafood; and
- use clean cutting boards and utensils when handling fresh produce. If possible, use 1 clean cutting board and knife for fresh produce and a separate board and knife for raw meat, poultry, and seafood.

Contact information:

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