

# DNA STRAIN TYPING FOR TB INFECTION

Knowing which strain of TB an animal is infected with helps case management and contributes to planning the programme for disease eradication.

DNA strain typing uses a number of methods to compare different genetic strain types of *Mycobacterium bovis*, the bacterium that causes bovine tuberculosis.

TB strain types differ between regions, so identifying strain types can be used to reveal the source of infection when investigating TB cases in both livestock and wildlife.

DNA strain typing techniques have evolved over time. The current method grows a culture of the bacteria, which can take 1–3 months. The typing process starts with the positive bacterial culture and can take up to an additional three months.

The decision to undertake DNA strain typing will be made on a case-by-case basis.



## HOW DNA STRAIN TYPING HELPS ERADICATE TB

DNA strain typing in wildlife is a useful tool when TB is found in an area previously believed to be TB-free. Strain typing the infection helps identify the origin of the infection suggests whether the infection is a result of:

- an animal migrating or being introduced, perhaps through illegal release, into the area; or
- a resurgence of a local strain of TB infection in wildlife

In farmed livestock, strain typing plays a vital role in identifying the source of

TB infection in cattle and deer herds. DNA strain typing helps distinguish whether an animal is carrying:

- **Movement-related infection** – when a TB-infected animal is introduced into a herd
- **Wildlife-related infection** – when an animal becomes infected due to close contact with local wildlife TB infection
- **Residual infection** – when TB infection has been present in an animal, but has not been identified through previous TB testing.

The ability to identify the source of TB infection, in both wildlife and domestic

livestock, influences how OSPRI responds to individual cases. This information enables the targeted use of resources where they will be most effective in addressing the source of the infection and will ultimately play a significant role in eradicating TB in livestock, in wildlife and ultimately in New Zealand.

## FURTHER INFORMATION

 [ospri.co.nz](http://ospri.co.nz)