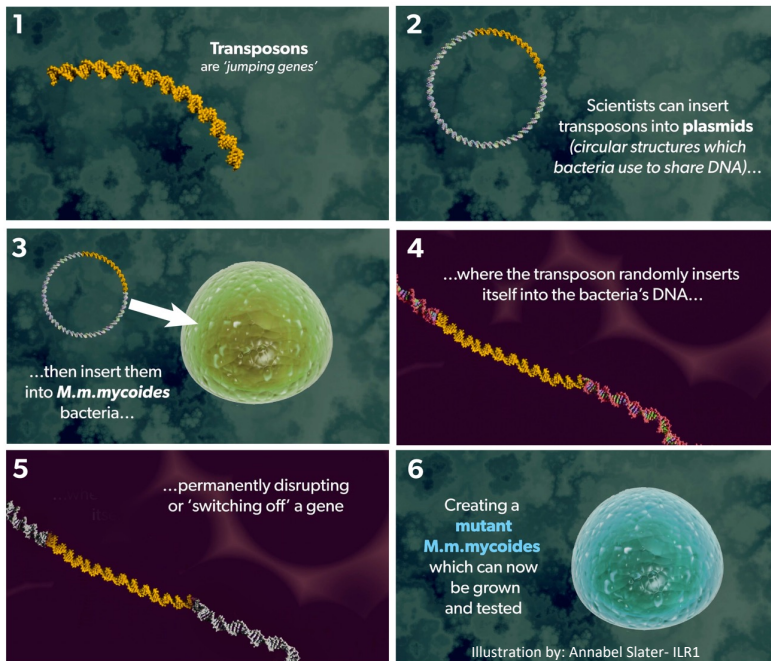


## The challenge

- CBPP, is controlled mainly through vaccination using a T1/44 live attenuated *Mycoplasma mycoides* subsp. *mycoides* (*Mmm*).
- This vaccine induces only short-lasting immunity and can cause severe adverse after immunization.
- A safer and more efficacious vaccine needs to be created that will increase animal welfare, enhance livelihoods and contribute to economic development.
- The key stage to target in CBPP is early on in infection. Early interaction causes the cells of the lung lining to send self-destructive signals to the immune system, which instigates the onset of CBPP symptoms.

## Our innovative approach- methodology



## World's tiniest library could be key to saving millions of cattle: Tackling CBPP



## Introduction

- Cattle with **contagious bovine pleuropneumonia (CBPP)** develop painful and inflamed, fluid-filled lungs, causing difficulty breathing and coughing. CBPP can infect nearly all the herd and kill up to 50% of animals.
- The tiny bacteria, *Mycoplasma mycoides* subspecies *mycoides* (*Mmm*), cause contagious bovine pleuropneumonia (CBPP) when inhaled by cattle.
- *Mmm* has a tiny genome that hides an immense complexity but also opens up possibilities for a notable research.

## Outcomes

- Our library contains more than 3,500 mutants.
- Apply the mutants to carefully designed experiments in the lab, to simulate and study the first stages of infection
- Animal trials have been conducted on one of the mutant.

## Next steps

- This living library of mutants is invaluable resource for researchers of *Mmm* and CBPP all over the world
- This library will also initiate capacity development by hiring PhD students to study different aspects of the library.

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