

# **INNOVATION & ENTREPRENEURSHIP CHALLENGE**

**DETAIL OF CHALLENGE** **PROBLEM 3**

**Name of Company:** GPRC NBDC (National Bee Diagnostic Center)

**Website:** [gprc.me/nbdc](http://gprc.me/nbdc)

## **ABOUT NBDC**

GPRC National Bee Diagnostic Centre (NBDC) is the first comprehensive laboratory in Canada to provide a full array of diagnostic services for honey bee pests, pathogens, and parasites. NBDC is the result of a partnership between GPRC and Agriculture and Agri-Food Canada (Beaverlodge Research Farm) in response to the needs of the beekeeping industry. Its development was funded by the Governments of Canada (via [Western Economic Diversification Canada](#)) and Alberta (via the [Rural Alberta Development Fund](#)) and by GPRC.

NBDC provides diagnostic services for beekeepers, researchers, agencies and industry with the aim of contributing to healthy, sustainable and profitable apiculture in Canada. We employ microbiology, microscopy and molecular techniques to identify bacteria, fungi, mites and viruses that affect honey bees. Client demand has grown from 1,500 diagnostics performed in 2013 to over 20,000 diagnostic tests performed annually.

## **CHALLENGE PROBLEM**

To design a functional shaker tube that can help remove mites from bees without harming them.

## **BACKGROUND**

- The mite removal presently being used isn't as functional as desired. The process of shaking the bees in the jar will loosen the mite from the bees – and then when the liquid is filtered out, you are able to find the mites
- It tends to harm the bees in the process of mite removal
- We desire a shaker that can retain the bees safely in the shaker tube while removing the mites from them
- Multiple bees are being processed at same time in this process.

## **PROJECT**

- Identify options of a Shaker tube
- Design additional components to the existing shaker or develop a totally new functional shaker that can perform more effectively
- Options should consider the most cost effective solution and minimize size of handling the shaker equipment

### **Video Links:**

**Video 1:** [https://www.youtube.com/watch?v=aNbB29xB\\_Qk&feature=youtu.be](https://www.youtube.com/watch?v=aNbB29xB_Qk&feature=youtu.be)

**Video 2:** <https://www.youtube.com/watch?v=nxVDyOstQ40&feature=youtu.be>