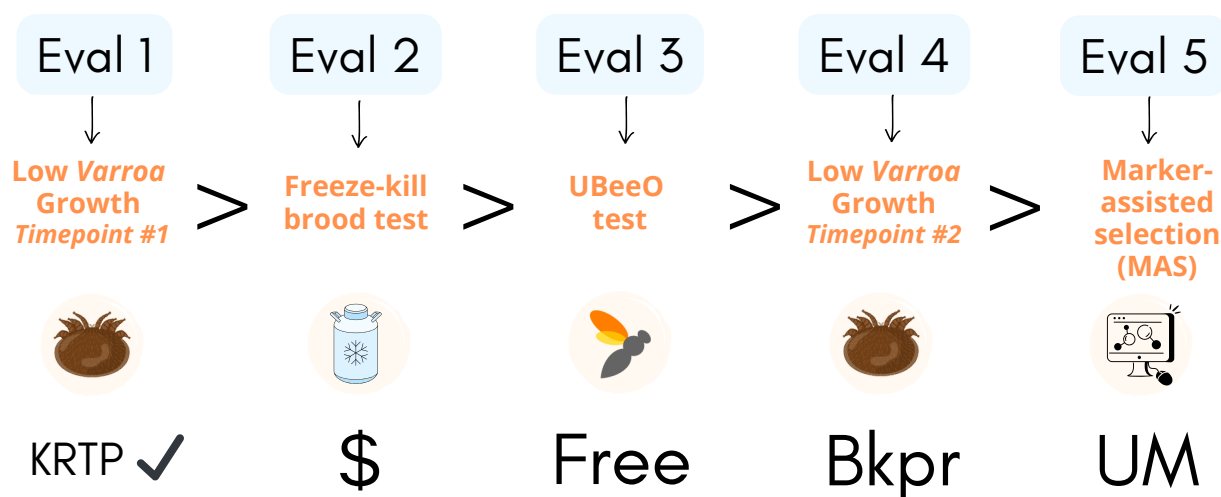


KRTP 2025

High/Low Hygiene Evaluation

PURPOSE: Extensive screening for beekeeper decision-making, as well as:

- Screening 100-150 colonies with the final step being the implementation of marker-assisted selection (MAS) tools for hygienic traits.
- Bee samples from both the high and low ends of the spectrum will have samples sequenced.
- The objective of MAS is to improve selection methods so they are not as time- and labor-intensive as our current observational and field test assessments.



Step 1: Eval 1 & 2

Find queen – set aside, sample colony for LVG timepoint #1;

KRTP performs FKB test, beekeeper takes photos 24 hours later, sends to KRTP.

Step 2: Eval 3

3-6 weeks later KRTP performs UBeeO testing and collects bee samples for potential sequencing of bees for MAS if colony lands in either high or low hygiene group.

Step 3: Eval 4

Beekeeper must collect *varroa* sample from each colony's brood nest for LVG timepoint #2. KRTP will process *varroa* sample. Can be mailed in at beekeepers' expense or picked up by KRTP at a later convenient date.

Step 4: Eval 5 – Performed by U of Manitoba on samples selected from high and low ends of hygiene behaviour spectrum

Notes: For LVG, preferably no treatment between timepoints, but we understand if it's necessary. We just ask beekeepers note that, and we'll include it in the analysis. If beekeepers are interested in doing LVG for breeding purposes, then definitely no treatment.



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