

TEST RUN POLICY

This policy for establishing a process for testing important changes in genetic evaluation methods and procedures before implementation was approved by the CDCB Board of Directors on 08/22/2019.

1. POLICY STATEMENT

The Council on Dairy Cattle Breeding (CDCB) is fully aware that changes to the U.S. dairy genetic evaluation methods and procedures have a direct impact on several national and international businesses that utilize CDCB results on their operations. Therefore, CDCB is committed to follow a process for implementation of important changes that allows industry input and promotes effective awareness among all parties affected prior to the adoption of the changes.

2. DEFINITIONS

- **Official evaluation** – routine genetic and genomic evaluation performed by CDCB utilizing previously tested and approved methodologies in which results are distributed to collaborators and published according to CDCB's publication policy.
 - **Official evaluation results** refer to all traits in the CDCB portfolio, including all CDCB's selection indices.
- **Test run** – full genetic evaluation utilizing modified procedures and/or methods when compared to official evaluations in which results are exclusively used to test the impact of modifications and are not published.
 - **Test run results** may involve some or all traits in the existing CDCB portfolio or newly developed traits, and are distributed only to members of the Genetic Evaluation Methods (GEM) committee and/or members of the Dairy Evaluation Review Team (DERT), who have signed non-disclosure agreements with CDCB.
- **Changes that require a test run prior to implementation:**
 - Adding **new traits** to the service portfolio.
 - Modification in the current **evaluation methods**, including model reviews, data editing criteria reviews and analytical algorithm modification.
 - Adding **new services**, such as launching new types of analyses and predictions and extending services to previously uncovered animal populations.
- **Changes that can be implemented without a test run:**
 - Modifications applied to existing software to correct previously undetected errors.
 - Modifications applied to improve processing efficiency without changes in methodology.
 - Periodically planned genetic base changes.

3. PROCESS OF IMPLEMENTING CHANGES TO THE CDCB GENETIC EVALUATIONS

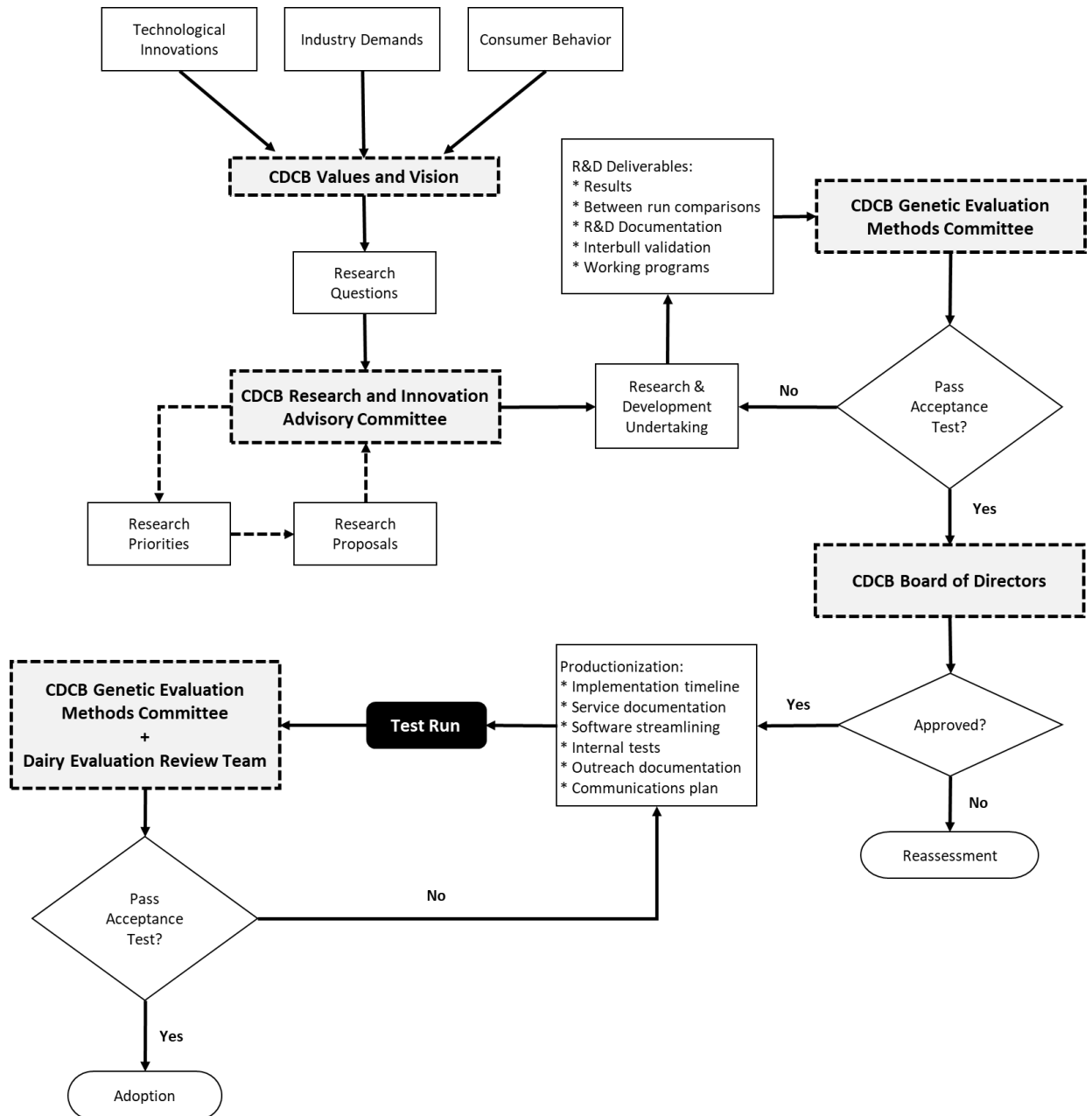


Figure 1 - Flowchart of the implementation of changes in CDCB evaluations.

External inputs coming from the dairy industry, from technological opportunities and from consumer trends must be filtered by the CDCB values in order to become research questions that may or may not

develop into new products or changes to the existing CDCB evaluations. The CDCB Research and Innovation Advisory Committee (RIAC) assists the CDCB board in recommending questions that deserve to be treated with priority and also in helping to identify scientific expertise capable and interested in conducting research on the selected topics. Once the selected research partner undertakes the project, a set of deliverables would be expected coming out of the process (Table 1). If research indicates that a new product or a modified method/procedure should be considered for implementation, the Genetic Evaluation Methods (GEM) committee is asked to conduct a technical acceptance test, which may or may not result in a recommendation to the CDCB board, who would decide about implementation of the change based on the technical evidence and the strategic value of the proposal. If implementation is accepted by the CDCB board, CDCB staff will carry out the productionization of the change in order to integrate it into the regular evaluation flow. Once the new procedure is productionized, a full test run (as defined in Section 2) must be carried out by the CDCB staff, so that the results can be reviewed by the GEM and the Dairy Evaluation Review Team (DERT). This constitutes the final acceptance test prior to the adoption of the change into routine evaluations.