

Applying Design of Experiments: Distinguishing Between Cow and Buffalo milk

Activity Report



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“Applying Design of Experiments: Distinguishing Between Cow and Buffalo Milk”

Report

The Department of Statistics, Kisan Veer Mahavidyalaya, Wai organized a practical activity on 17th September 2025 under the Student Activity Programme titled “Distinguishing Cow and Buffalo Milk Using Experimental Design.” The objective was to help students understand the principles of the Design of Experiments (DoE) through a simple, real-life example.

The session began with **Dr. R. H. Waliv**, Head of the Department, addressing the students. He explained the aim of the experiment and introduced the key principles of DoE such as randomization, control of variables, observation, and analysis.

For the experiment, cow milk and buffalo milk were boiled, cooled, and their cream layer (malai) was removed to avoid obvious clues from smell or texture. Each cup was coded secretly — “0” for cow milk and “1” for buffalo milk — to maintain unbiased testing.

Out of five students who claimed they could distinguish between the two types of milk, **three were randomly selected** to participate. Each participant received **eight cups (10 ml each)** arranged in random order, containing four cups of cow milk and four cups of buffalo milk. Their task was to identify each sample correctly by taste and observation alone. Students from B.Sc. I, II, and III attended as observers, making the activity collaborative and engaging.

The experiment highlighted the importance of:

- **Randomization:** arranging the cups in random order,
- **Controlled variables:** maintaining equal quantity and temperature of milk,
- **Unbiased observation:** removal of cream and smell ensured fairness.


Head




Principal

Geo tagged Images

