Digital Innovation at the Service of Breeders: The Synergy Portal and Mobile App for Real-Time Genetic Decision Support

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Modern dairy and beef cattle farming requires a paradigm shift where centralized genetic and productive data become strategic tools for daily management. The objective of the Synergy Portal and its dedicated App is to provide breeders with a “data-driven” decision support system, allowing them to manage complex information—such as inbreeding levels and genetic indices—autonomously and directly in the barn. The Synergy platform integrates data from various breed associations (17 breeds) into a single interface. Accessible via web and smartphone (iOS and Android), the tool synchronizes with the National Database (BDN) and breed association records. A key feature is the “Parentele” (Relationships) tool, which utilizes both pedigree information and genomic data to calculate precise levels of similarity between animals. This allows for a more accurate assessment of consanguinity compared to traditional probabilistic pedigree calculations.

Through the mobile app, breeders can now select bulls for mating in real-time. By selecting specific bulls and testing them against their herd, the app provides an immediate table showing the degree of relationship for each individual cow. Breeders can use advanced filters to identify cows with relationship values below a specific threshold, effectively preventing inbreeding and the risk of hereditary defects. This digital integration allows for the optimization of mating strategies, better planning of semen doses, and the preservation of genetic variability, even for smaller or endangered breeds.

The Synergy tools transform a massive amount of raw data into actionable knowledge. By making genetic management “pocket-sized,” the platform enhances farm sustainability and competitiveness. It empowers breeders to move from “reacting” to “predicting,” ensuring that every mating decision contributes to the long-term genetic health and productivity of the herd.