عنوان مقاله:

Development of a Novel Simulation Software Program (Rayan) for Modern Dairy Herd Data Management

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خلاصه مقاله:

Modern dairy herds rely greatly on digital and computer-based programs and techniques for precise andaccurate data management. The objective of this technical research was to develop and describe a novelsimulation software program for management of dairy herd big data. The current simulation program (Rayan)evaluated and utilized 643 management parameters. The simulation software program (Rayan) is capable toreliably and precisely predict herd composition, income over feed cost, heat detection, fertility, and otherreproductive indices, as well as animal sale management and milk strategic marketing. Such a capabilitywould ensure that dairy management annual budgets are developed with high precision. In addition, potentialmanagement risks may be predicted, tackled, and prevented in coming years. The program enables presentand past times management and can be linked to different other major programs of dairy herd management.Moreover, different items prices, total income, and total cost may be accurately calculated. Furthermore,rates of animal purchase and sale can be predicted based on current management conditions and capacities.Management coefficients developed may also be tested and applied to small ruminant herds. Futureapplications will include optimizing milking and feeding management. Development of this simulatorsoftware program is at the frontier of optimizing dairy research and development in strategic and systematicmanners.

کلمات کلیدی:

Big data, Simulation, Software, Dairy herd, Management, Prediction

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