Estonian Dairy Cluster (EDC) in an entrepreneurs NGO created with aim is to find new opportunities for creating higher value added from the perspective of dairy production and processing chain, improve economic performance of sector enterprises and increase global competitiveness through cooperation and various innovation activities.

Prototype of animals and grassland management program with automatic time log algorithms

Beef bovines are kept mostly in grassland. Its management is complex and available programs old-fashioned. The goal is to create a maximally automated solution that uses modern capabilities to simplify the organization of grazing, manage grasslands, archive activities and report. The solution must be able to implement the desired things on the different layers of the map applications offered by the Estonian Land Board using its data, apply automatic calculations instead of manual input, and also enable the automatic use of previously entered or existing data (for example: water protection restrictions, data provided by owner in PRIA regarding the boundaries of agricultural fields or requested land use, etc.). On the other hand, it would allow data entered into the program to be reloaded/exchanged with other parties (state, commercial parties or also, by the needs of an accounting program). Until now, the different programs have been poorly connected, and confirmations must be given separately in each party. Therefore, user-friendliness and comfort are considered important, the use of smartphones in many jobs instead of computers.

1) The application should work as part of the EPJ Liisu/beefEST program or separately, be a cloud application rather than on a specific individual computer, enable personal identification
2) Enable time-log use and automatic background calculation/algorithms. Latter related automatic reports and queries for multilateral data exchange. For example:
   a. how long an animal has been in the building/pasture, means the weight gain per unit of time, etc.
   b. calculation of expected plant growth (based on their type, in this time period, including weather conditions (linkable input)) to automatically determine the time of grazing on one or another field or the ability of the plants to feed animals. Automate calculation how many animals, for how many days can be put there & comparison what is their feed requirement according to age consumption norms. Warnings if not matching
   c. Manure generation= Animal x number x time/ha x age & weight coefficient per person produces so many kg of manure. Calculation to NPK
   d. Paddock expected rest time after grazing (incl. depending on weather)
3) Animal management, including its groups, change log, weight log and time-log estimations,
4) Drawing boundaries and marking important objects to map
   a. Support the ability to manually/with GPS device draw boundaries on an electronic map, as well as transfer to third side and calculate the resulting data
   b. List of important characters (Property, field array, paddock, permanent/temporary garden, watering points, Gate, Natural water (from the map application), roads)
5) Task manager & warnings (bring something, take these animals there, check these things, take water there etc.) The map visually supports the task

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