A mobile device based ration preparation software

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Introduction

Optimization process is the most important point of our study. We used the genetic algorithm method for mixed feed solution. Genetic Algorithms (GA) are the search and optimization methods evolutionary observed in nature in a similar manner running. In complex multi-dimensional search space, GA is holistic searches for the best solution According to the principle of the survival of the best (Davis, 1991). In general GA comprises the implementation of reproduction crossover and mutation operators to a population of arrays (generation). After the implementation of these operators (offspring generation), a new population occurs. Old generation is replaced by a new generation of parents. Each array (chromosome) has a compliance value. The new generation (new arrays) are selected based on this compliance value. Each new generation produce more consistent attempt which is made to produce better generation. In this way, it will be possible to find the correct solution. When the solution proximity to the amount of the desired level, GA will stop. Now, the best solution was found. If you want to search for better solutions re-run the GA (Popov, 2005).

Rapid growth of world's human population increases in proteins of animal origin demand every year. To satisfy that needs number of animal enterprises and animals per enterprise are increase day by day. To increase the profitability and production efficiency of enterprises, it is essential to exactly meet the nutriment requirements of animals. Produced feeds should be as nutritious and cheap as possible with items on hand. To address the mentioned requirements an Internet and GSM based ration preparation software was developed. The mentioned software can solve the optimum ration both in nutrition and price. Properties (price etc.) of feed stuff can be updated and new feed stuff can be added by user. Rations of concentrate, roughage and TMR; mixed feed of concentrate and roughage can be solved. To achieve most appropriate solution, genetic algorithm as a member of artificial intelligence were used.

Thanks to this algorithm, it is optimized best fit with minimum cost.

Material and Method

The soft ware was developed with eclipse Java editor. That software can also be used with mobile devices which are independent of time and space. Common usage of cell phones is a main advantage of developed software, taking in to account that everybody has at least one mobile device with Android operating systems.

Figure 1: Inserting the toolbar for mobile devices in ration preparation

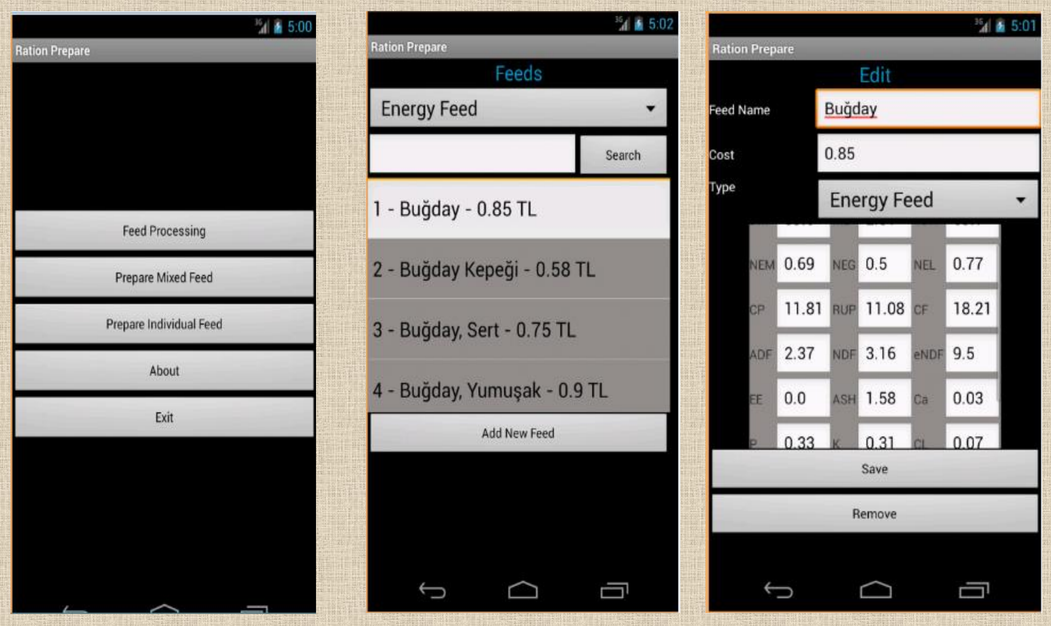

Figure 2: Inserting the toolbar for setting feed and set requirements

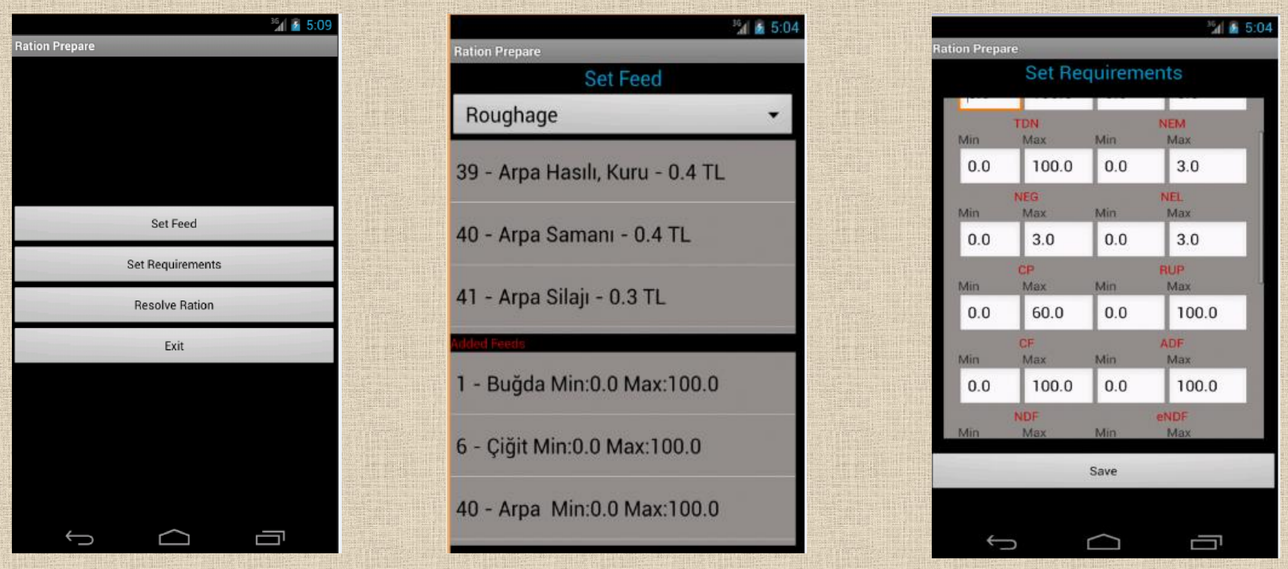

Figure 3: Inserting the toolbar for % ration requirements and formulation

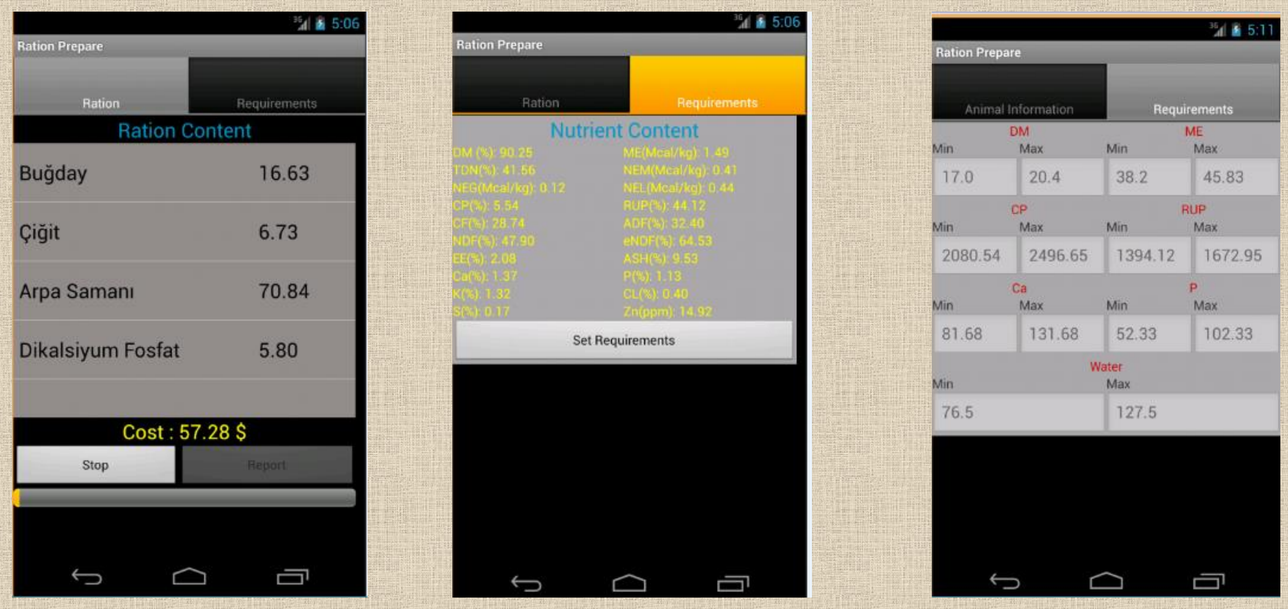

Figure 4: Inserting the toolbar for individual ration formulation and nutrient content

Result

Mobile devices is indispensable in the digital age, and our mobile devices are portals through which we connect with everything and everyone. The ration preparation software will provide users with great ease. If you want to download, you will click this adress (https://play.google.com/store/apps/details?id=com.rasyon_hazirlama&hl=tr)