

S12(T)-PP-09

Cowgrade, a model based prediction tool for farmers, to help to decide about the future for a cow

Harm-Jan van der Beek

UNIFORM-Agri, UNIFORM-Agri, Assen, Netherlands

On a daily basis farmers have to make decisions about their cows and what to do with them. For every cow there is a moment to stop investing in the animal and to decide she is going out. That moment depends on so many things, which makes it hard for the farmer to have all the information available to make a balanced decision. Cowgrade combines all this information and presents a score between 1 and 10, combined with the same colors as any traffic light (red and green).

UNIFORM-Agri used over 3000 anonymized databases of farmers who use their herd management software. These farmers are using the software on average for more than 5 years and with an actual herd size of over 100 cows. When a cow leaves the farm all the data and all events happened with that cow are still in the database. Consequently there was a combined database with a total of over 300.000 cows, with all their data, that left the farm and the reason for it (slaughterhouse or something else). This data exists of production data (milk yields and a big portion with fat, protein, SCC), fertility data (birthdates, calving dates, heats, inseminations, PD's, dry off dates) and also health events like mastitis, metritis, lameness etc. When analyzing this data we found patterns in the data that was related to the moment of the cow leaving the farm for slaughter. Having that pattern, or so-called model, we have built a tool to look at the current cows on a farm with that same model. That ended up as a prediction tool that gives a score.

In practice young heifers all start with a high score (close to 10, so green). During their lives, when they produce and show how their fertility and health is, their score goes down (to a 3 or 4, so red). This tool helps farmers to make better decisions on when to stop investing in a cow by either inseminating or treating a mastitis or other disease. The score is calculated every time data is available and is always up to date. Farmers can tweak the model a bit by putting extra weight to certain factors that are important to them. This can be for example more focus on health.

The Cowgrade tool is recently introduced to farmers with the herd management software and it is also shown per cow on a handheld.

Keywords: herd management software, data entry, herd management program, process computer, cow grade