

Managing hot periods using decision support tools

Today the livestock industry is aware of the impact of hot periods on the technical and economic performance of farms as well as on the comfort of animals. Breeders however can have a difficult time understanding this. CCPA has developed support tools in order to assess periods of risk to minimise the impact of heat stress.

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How do you assess the impacts of heat stress at the farm level and how can you compare these without any references? Without this knowledge the consequences are severe; fitting-out of buildings with costly investments and production losses to name a few. In addition, heat stress has long-term repercussions and therefore the results are penalised over time.

Anticipate the risks of heat stress

When does the period of heat stress begin in my region? Answering this question is essential for animal set-ups, on-farm feed production, adaptation of feeding programmes and inventory management of specific products.

The CCPA Group has developed a tool that is based on meteorological data from the last five years, in particular temperature and humidity. It is thus possible to predict the amplitude and duration of the hot period over a defined area in order to act accordingly. This query can be done on the basis of a city, region or country depending on the desired precision. It is also possible to estimate in a simple way the quantity of Thermo supplements that the manufacturer will need during the associated feed manufacturing.

Thermoplan is available to CCPA teams to support companies in their organisation and management of hot periods. Self-explanatory graphics allow you to make sound decisions and facilitate meetings of breeders' groups.

Thermoplan also shows the monthly average THI (Temperature Humidity Index)

information and the number of days beyond the risk threshold set by the user. The choice of the risk threshold is made according to the geographical area, the type of production and the level of performance. It is also possible to select the reference period, from 1 to 5 years as desired. All of this personalised information allows the manufacturer to anticipate their needs and refocus on supporting their breeders during difficult periods.

Production losses and economic impact

Farm producers do not take the necessary measures or decide to implement them too late because they do not have the means to objectively measure the losses heat stress represents in their farms.

The CCPA Group has modelled the production losses linked to THI, thanks to a bibliographic summary specific to each species and type of production. In addition, thanks to the numerous tests carried out with Thermoplus, Thermocontrol and Feedstim solutions, the CCPA Group is able to estimate the impact of its solutions during heat periods. The users of CCPA's solutions can therefore have access to an estimate of the production losses linked to heat and the potential gain allowed by Thermo solutions.

All this is easily accessible through a free Thermotool application. This application retrieves the THI of the farm, either from the nearest weather station or from a probe in the building (see modalities by CCPA). It is possible to subscribe to automatic alerts, either on your smartphone or on your computer as soon as the THI exceeds a certain threshold for a given production. The application offers a forecast over the following five days, which allows you to anticipate future heat peaks.

For ruminant breeding, air speed can also be integrated which allows for a more refined approach for breeders who have invested in ventilators. Thanks to this risk estimate, as well as the potential effect of Thermo solutions, the breeders can make their decisions on a solid basis. The CCPA Group has been working on heat stress for more than 15 years, in close collaboration with its subsidiaries located on several continents where this problem has existed for a long time. It was thus measured that it was not possible to have a significant effect without a global approach of products and services.

Various solutions to mitigate heat stress

The CCPA group has developed different solutions for each species to tackle heat stress conditions. Because the physiological adaptations of animals are different from species to species, specific responses are needed. Some products use original and patented manufacturing technologies to guarantee the effectiveness of sensitive active ingredients.

- Ruminants: There are two versions of Thermoplus, a concentrated version to be incorporated into compound or mineral feed by feed manufacturers and a less

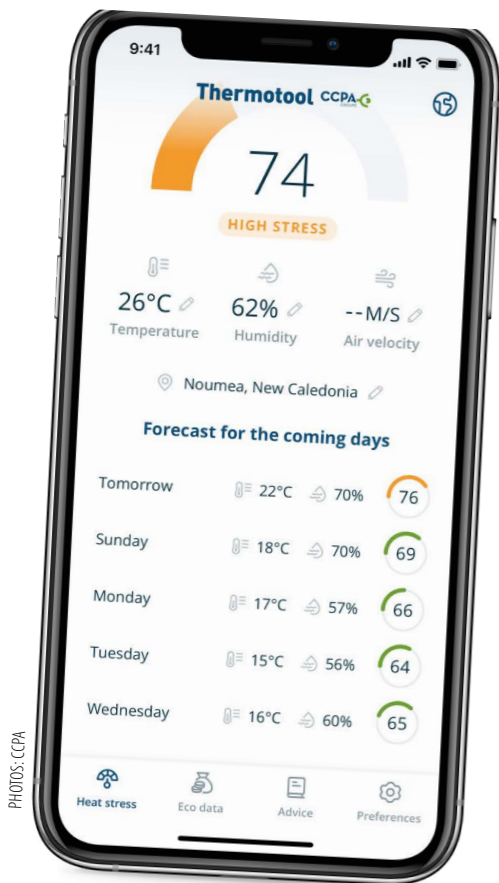


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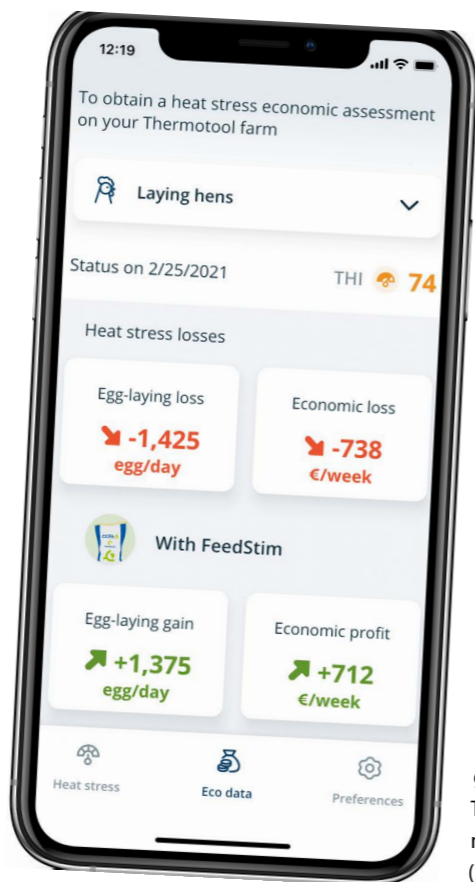
concentrated version to be incorporated directly into the complete ration at farm level. Thermoplus justifies numerous fields tests each year and has proven its value for 1 to 3 litres of additional milk for an investment of about 0.5 litres, not to mention the beneficial side effects on animal welfare and reproduction.

- Poultry: The FeedStim solution can be used continuously in the feed during hot periods. Its support for production performance in this context (ADG, FCR etc.) has been underlined during numerous trials with an ROI from 2 to 9 for layers and broilers. During episodes of heat waves and associated fastings, ThermoPoultry can provide occasional support for animal comfort and performance through water distribution.
- Swine: ThermoControl is intended to be incorporated into the feed by the feed manufacturer during periods of chronic heat stress. Numerous trials have shown the benefit of this solution, which has been proven in sows and fattening pigs with an ROI of 3 to 8. Thermo Pig is a nutritional intervention solution particularly suitable for combating heat peaks in lactating sows. It can be distributed on top feeding directly on the farm.

Thermotool is available for free on IOS and Android from March 2021



PHOTOS: CCPA



Example of measurements of THI and risk index from the Thermotool app; weather prediction for the next 5 days and economic data for laying hens.