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PERSPECTIVES FOR INTROGRESSION OF THE 'SLICK' GENE IN ROMANIAN DAIRY CATTLE FOR HEAT TOLERANCE

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• Introduction

Europe is the fastest-warming continent and its temperatures are rising at roughly twice the global average rates according to the EU Climate Agency.

It is well documented that in lactating dairy cows heat stress reduces feed intake, alters the metabolism, compromises milk yield and leads to fertility problems.

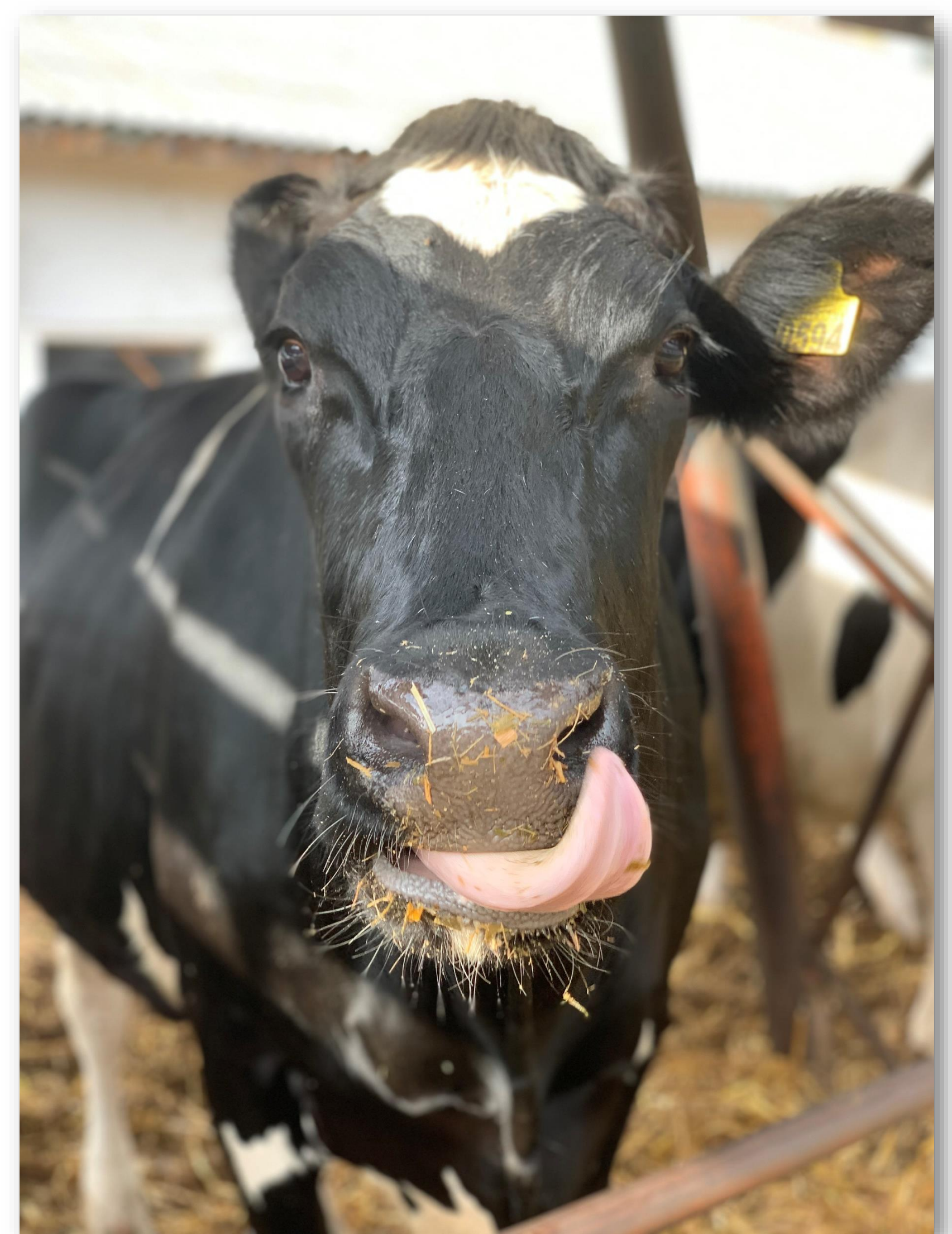
As a result, there is a growing interest to reduce the severity of heat stress effects on dairy cattle throughout the introgression of specific genes that confer thermotolerance.

• Material and method

The 'SLICK' gene, identified in Senepol cattle from the Caribbean Islands was recently introduced throughout crossbreeding in the American Holstein breed.

SLICK is a prolactin receptor (PRLR) mutation, which consists of a single base pair deletion in exon 10, conferring animals a short hair coat.

Holstein cattle carrying the SLICK gene mutation have been shown to have superior performances under both U.S. and Australian heath stress conditions.



• Preliminary results and discussions

In order to mitigate heath stress effects on the Romanian dairy sector, a project funded by the Ministry of Agriculture and Rural Development was set-up in 2023, to introduce and evaluate SLICK Holstein genetics.

To this aim, semen was imported from two SLICK carrier bulls from the US (9HO162227 +2815 GTPI and 9HO16182 +2770 GTPI), and used to crossbreed with Romanian Black and White HF dairy cows, first gestations being obtained in early 2024.

Further investigations are being carried out to evaluate growth rates, climate adaptation, production, reproduction and health of the SLICK gene carrier animals under Romanian production conditions.

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