

TRIABE: strategies for improving the transport of suckling calves to optimise welfare, health and productivity

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01. Rationale

This Operational Group was created, on the one hand, with the aim of studying the main risk factors affecting the welfare of suckling calves in different transport systems. On the other hand, the aim was to identify the main indicators to assess the welfare of suckling calves on arrival via transport to the farm or assembly centre and their recovery during their first few days there. The final objective was that with all this information, transport classification categories could be designed based on risk level (high, medium or low risk) for the purpose of applying management and sanitary protocols on arrival according to the category.

Three specific technical objectives were proposed:

1. Study the main risk factors (management, facilities, environment, genetics, etc.) that affect the welfare of suckling calves in different transport systems.
2. Identify the main indicators for assessing the welfare of suckling calves on arrival via transport to the farm or assembly centre and their recovery during their first few days there.
3. Design a transport classification based on risk categories (high, medium or low risk) for the purpose of applying management and sanitary protocols on arrival according to the category.

The project had three phases:

Phase 1. Validation of the surveys.

Phase 2. Collection of data before and during transport. Assessment of animal welfare and physiological parameters at 14 days post-arrival.

Ten records were made for each type of transport (direct: collection centre to farm; bus: collection centre for different destination farms; centre: from the collection centre to another collection centre and from there to the farms).

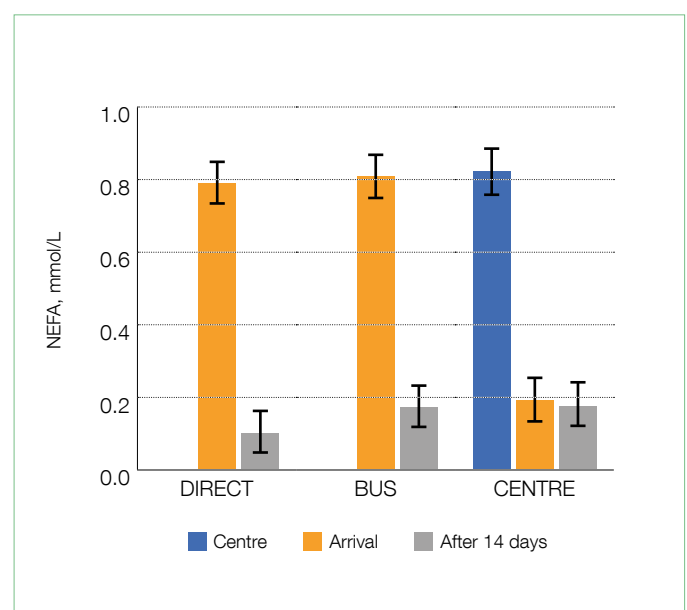
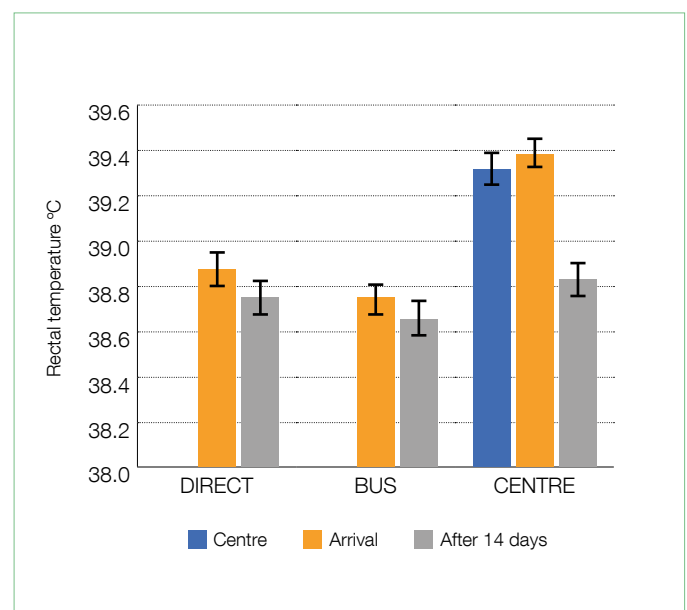
A total of 30 transports were analysed with the following information:

- Transport conditions and truck data (country and town of origin, kilometres travelled, day and time of origin and destination, hours of journey, experience of the driver, type of vehicle, characteristics of the truck, presence and type of enclosure, number of animals unloaded, incidents, weather conditions during transport).

- Unloading: Evaluation of unloading, characteristics of the unloading site, handling during unloading.
- Arrival and destination farm: number of pens and animals per pen, characteristics of the sheds, evaluation of the animals' physical condition and general condition, evaluation of the animals' health status.
- Recording of body temperature and blood samples to assess energy balance and haematology on arrival and at 14 days.

Phase 3. Designing the categories

Different risk factors have been identified: duration of transport, distance of transport, sex and breed of animals, time of year, time of departure of transport, time of arrival of transport, type of truck, experience of the driver. The type of transport (direct, bus, centre) affects the parameters assessed (mainly serum concentration of non-esterified fatty acids, body temperature, percentage of slips on exiting the lorry).

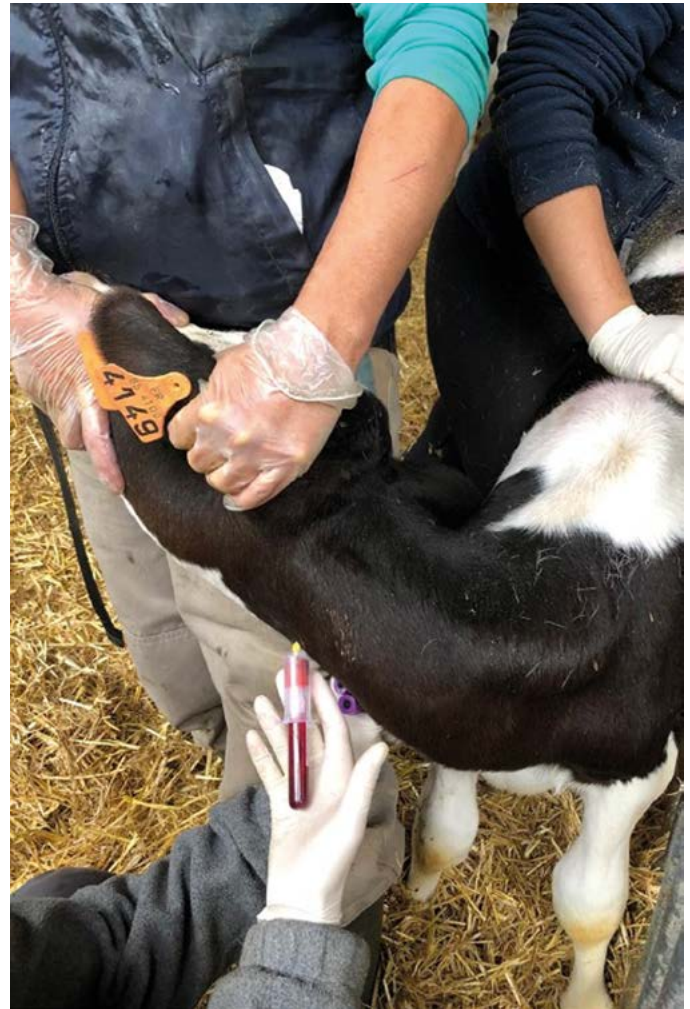


Rectal temperature and serum concentration of non-esterified fatty acid (NEFA) of calves transported directly to destination, by bus, and with a stop at an assembly centre. Source: Operational Group.

02. Results and conclusions

- a. Preliminary results in evaluating the transport of suckling calves show that factors such as hours of transport, kilometres travelled, season of the year, experience of the driver and type of truck, etc. have an effect on the parameters evaluated after transport.
- b. Based on the results obtained, protocols could be developed that would improve the welfare and physiological condition of suckling calves on arrival by following measures such as:
 1. Scheduling departures from the origin in the morning, and arriving at the destination in the evening, avoiding loading and unloading in the afternoon.
 2. Using more stable trucks for the transport of suckling calves.
 3. In the case of suckling calves, it is advisable that drivers have experience (more than five years of driving).
 4. Where possible, calves should be transported from closer areas and countries.
- c. In studying the different types of transport, it has been observed that, regardless of the type of transport, all calves arrive with negative energy balance and altered haematology parameters, returning to their basal concentrations 14 days after transport. With the CENTRE-type of transport, where the animals were unloaded, fed and rested before reaching the final destination, the concentrations of NEFA and BHBA were reduced, indicating that the calves recovered their energy balance, although rectal temperature was not reduced, indicating that the stress of the transport lasted over time. The CENTRE-type transports were the longest in terms of hours of transport.

The results obtained in this project have made it possible to create a risk classification that should be validated with more trips and/or by making different protocols according to the risk and verifying whether this classification can help to improve the welfare of the animals during the days following arrival.



Photos: Operational Group.

