

005



Sprayfo OsmoFit

Trial Report Summary

Trial Report Summary

Successful recovery from diarrhoea relies on the implementation of appropriate nutritional interventions in the early stages of disease. Regardless of disease etiology, diarrheic calves experience extensive fecal losses of water and electrolytes, often resulting in dehydration, loss of acid-base balance, and negative energy balance (Constable et al., 2001; Trefz et al., 2012). Severe intestinal epithelial damage reducing the nutrient absorptive capacity of the gut may also occur (Klein et al., 2008; Foster and Smith, 2009).

Besides sustaining milk feedings, oral electrolyte solutions (OES) should be offered to diarrheic calves in between milk meals to maximize the daily fluid intake, and in this way, to mitigate dehydration (Rademacher et al., 2002). Recommendations for the appropriate OES, particularly regarding sodium (Na⁺) and glucose concentrations, and therefore tonicity, are conflicting between human and veterinary medicine (Michell, 2005). Most commercially available OES for calves

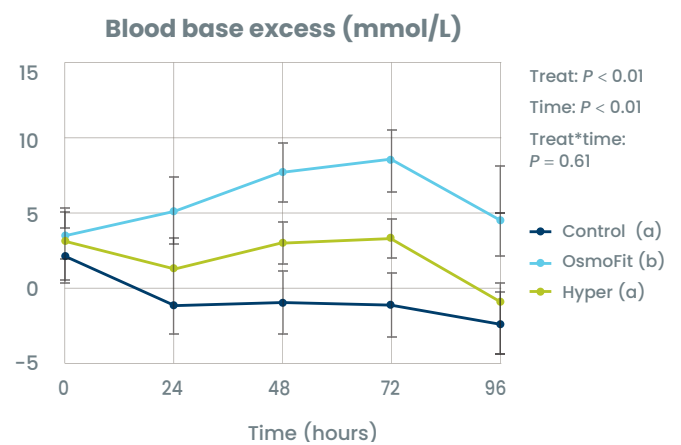
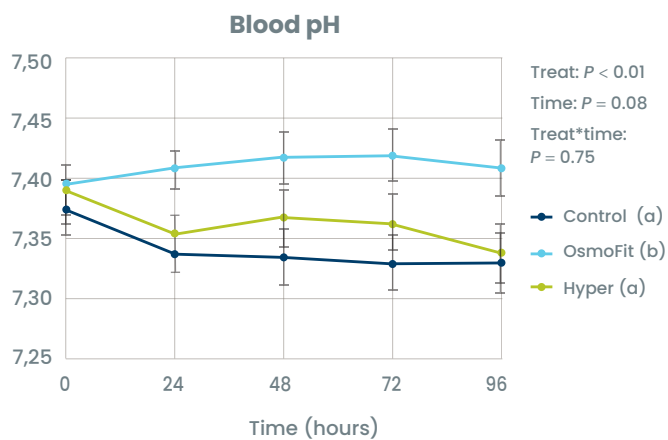
in the market are hypertonic solutions, containing high sodium and glucose concentrations which is sub-optimal for nutrient absorption. Therefore, animal scientists at the Trouw Nutrition Ruminant Research Center set out to develop an OES with the optimal balance between osmolality and SID (strong ion difference), called OsmoFit.

OsmoFit trials were performed during a period of 5 days, with careful monitoring and sampling of blood (once daily), urine (3 days) and feces (1 day). Throughout the trial, the calves were fed 2 litres, twice a day, of different treatments depending on the group: OsmoFit, a representative formula for hypertonic products, and plain water as control. Always with ad libitum access to plain water and normal milk replacer allocation (5 L per day).

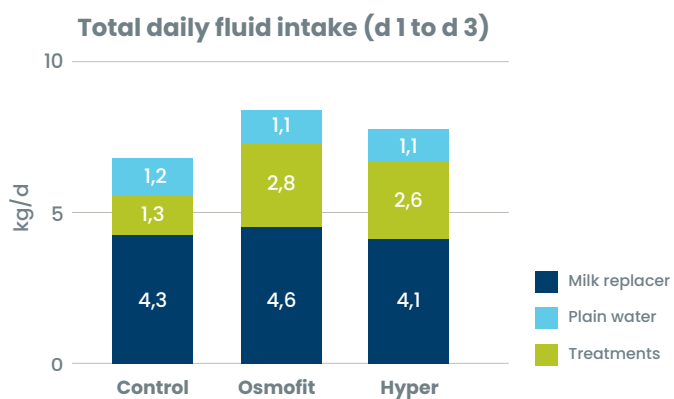
Based on the results of the trials, it was concluded that **OsmoFit is more effective at restoring water, mineral and acid–base balance than the hypertonic OES.**



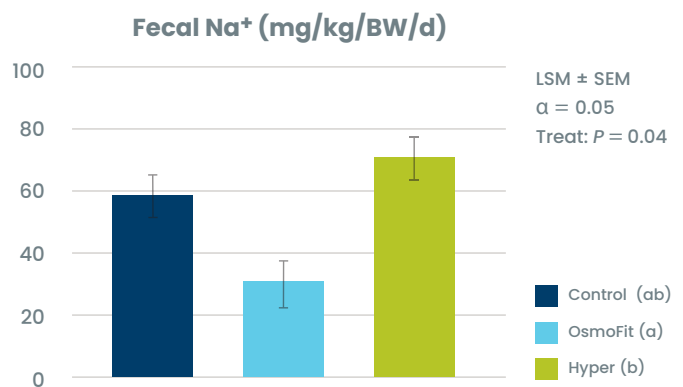
OsmoFit (hypotonic formula) has a higher capacity to manage metabolic acidosis comparing to hypertonic solutions and plain water.



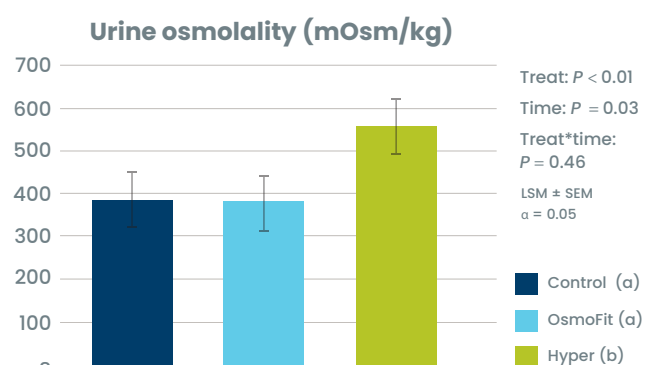
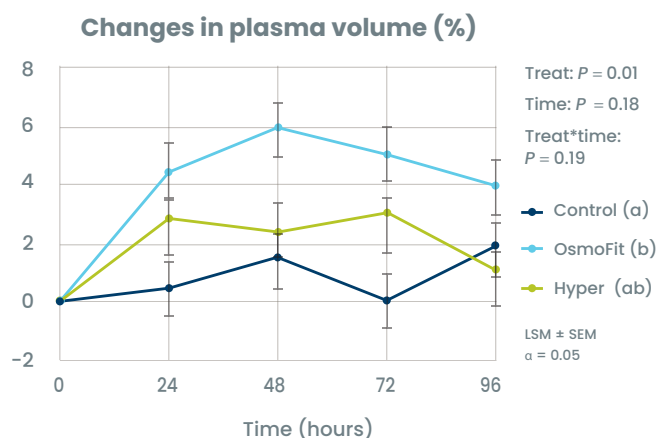
Total intakes are higher when animals have access to electrolytes comparing to plain water.



OsmoFit decreases the loss of sodium in the feces, compared to Hypertonic products and plain water.



There is evidence of better hydration with OsmoFit than with Hypertonic products or plain water.





www.sprayfo.com



Sprayfo is a brand of Trouw Nutrition, a global leader in animal nutrition, specialising in the development of innovative feed technologies, premixes and unique software solutions. Quality, innovation and sustainability are the guiding principles behind what we do – from research and raw material procurement, to the delivery of cutting-edge products and services designed to increase animal production efficiencies.