

Abstract

Pregnancy Nutrition Affects Calf Survival in the Tropics [†]

Geoffry Fordyce *

University of Queensland, QAAFI, Charters Towers, QLD 4820, Australia

* Correspondence: g.fordyce@uq.edu.au; Tel.: +61-4-2810-9062

[†] Presented at the Third International Tropical Agriculture Conference (TROPAG 2019), Brisbane, Australia, 11–13 November 2019.

Published: 19 January 2020

Abstract: The net cost of calf loss between confirmed pregnancy and weaning in a north Australian beef business is >\$400. In an epidemiological study of >46,000 pregnancies in commercial beef herds, median wastage was 9.5%, ranging from 0% to >30%, consistent with the situation in many tropical countries. Detailed study of >9500 pregnancies in multiple research herds with similar loss showed 30% and 50% of losses occur within a day and week of calving, respectively. Stress and under-nutrition of the pregnant cow, e.g., low dietary energy, protein or phosphorus, low body condition, poor handling and exposure to environmental extremes, have substantially-more impact on calf wastage than any of the risk factors traditionally blamed, i.e., infectious disease, inherited, congenital or acquired defects of the calf and or cow, and natural causes such as predation or accidents. Nutrition- and stress-related risk factors with large impact on calf wastage may influence milk delivery, especially to neonates that require colostrum and as much as 5 L/day from birth. Neonatal calf diarrhoea is not usually a feature. Low milk delivery can be due to either insufficient milk production or to reduced calf capacity to suckle. Calf loss is also associated with mortality of poorly-nourished cows. Causal webs explaining calf loss in non-intensive tropical beef systems demonstrate the high degree of complexity, intervention points with greatest potential impact and that any potential interventions to reduce calf wastage have both negative and positive impacts. Systematic solutions should target critical control points and are situation-specific.

Keywords: beef cattle; tropics; reproductive wastage; nutrition; pregnancy



© 2020 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).