

# Inside every calf lies a lifetime of productivity

Managing respiratory health  
for optimal performance of  
dairy heifer and dairy-bred  
beef calves



**Rispoval<sup>®</sup>**  
**IntraNasal**

*Release their potential*

# Take pride in early protection for lifetime productivity

- Performance of the young reared calf can determine its lifetime productivity
- Performance is affected by genetics, nutrition and health, with respiratory infections being one of the most common health problems in young calves
- All herds are at risk of respiratory infections, so protecting the young calf as early as possible helps ensure it can reach its full potential
- Early vaccination can help maximise lifetime productivity, making it a good financial investment
- Vaccination is an integral part of good farm management

## Rispoval<sup>®</sup> IntraNasal

Release their potential



## Performance of the young reared calf can determine its lifetime productivity

The foundation of every calf's lifetime performance begins at birth. The first two months are of particular importance<sup>1</sup> – a direct link has been made between heifer growth rates during the first few months of life and age at first calving,<sup>2</sup> first<sup>1,3</sup> and second<sup>4</sup> lactation milk yield and longevity in the dairy herd.<sup>3</sup> If a young reared calf (destined for the dairy herd, or finished beef) doesn't grow effectively in the first months, it can be too late to simply 'catch up later'. Therefore, careful, proactive management of the reared calf is critical to maximise future productivity.



## Importance of good respiratory health for calf performance

Of the factors that are crucial to the calf's best possible performance, good respiratory health is essential to ensure they grow to their full potential and are able to deliver to their maximum. Respiratory ill-health is common in young calves and all herds are at potential risk. It has been estimated that 67% of cases of pneumonia occur in calves less than 3 months of age.<sup>5</sup> In addition, some calves will be infected, but not show obvious clinical signs and therefore go unnoticed, but the underlying lung damage can limit growth rates.<sup>6</sup> For reared calves the long-term impact appears to be greatest when poor respiratory health affects them at a young age, often pre-weaning.<sup>2</sup>



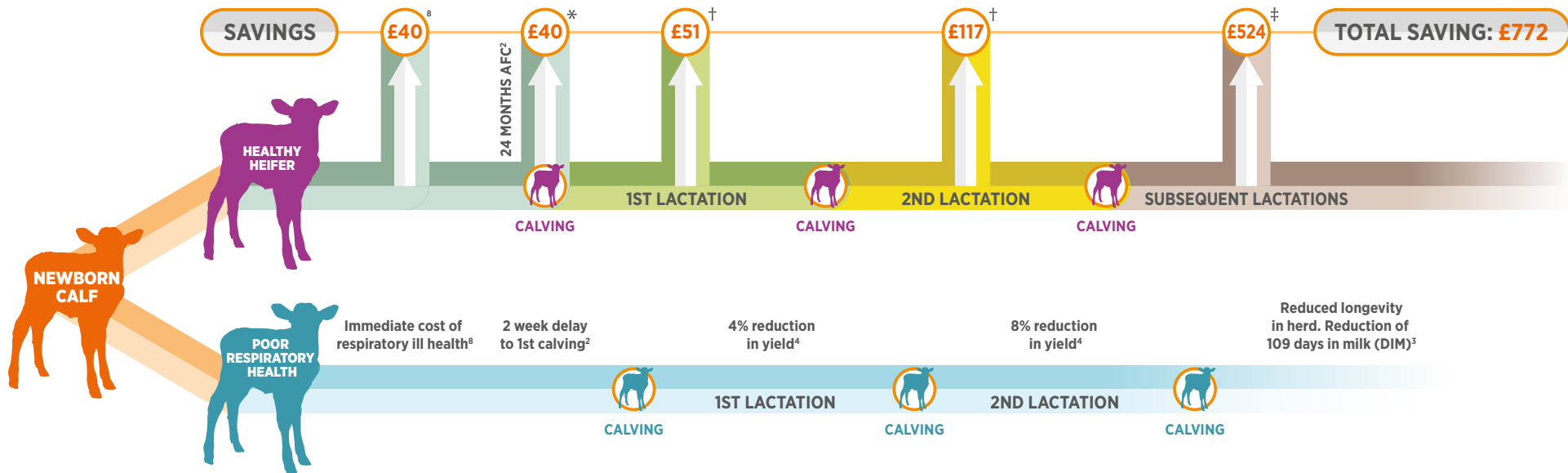
## Dairy Heifer Calves

A UK study<sup>7</sup> showed that on average, 14.5% of live born dairy heifers fail to reach their first lactation, with pneumonia the biggest known cause of mortality in calves aged 1 to 6 months. Compared to calves with underlying lung damage, optimising calf respiratory health has the potential to decrease the age at first calving by 2 weeks,<sup>2</sup> increase lactation yields<sup>1,2,4</sup> and extend longevity in the herd (calves with poor respiratory health are less likely to complete their first lactation, and average 109 fewer days in milk over their lifetime<sup>3</sup>). These gains are in addition to the immediate savings from not having to treat cases of pneumonia, estimated at £40 per animal.<sup>8</sup> Herds in which heifers calve young, yields are high and replacement rates are low, will achieve better overall herd efficiency in terms of milk/year of life.



## Lifetime value of good respiratory health

### Dairy Heifers



\* Cost of £2.87/day for each day increase in AFC<sup>9</sup>

† Assumes a 7,000 litre 1st lactation yield (4% = 280L), 8,050 litre (15% increase) 2nd lactation yield (8% = 644L) and 18.2ppl margin over purchased feed<sup>10</sup>

‡ Assumes a daily yield of 26.4L (8,050 litres over a 305 day lactation) and 18.2 pence per litre margin over purchased feed<sup>10</sup>

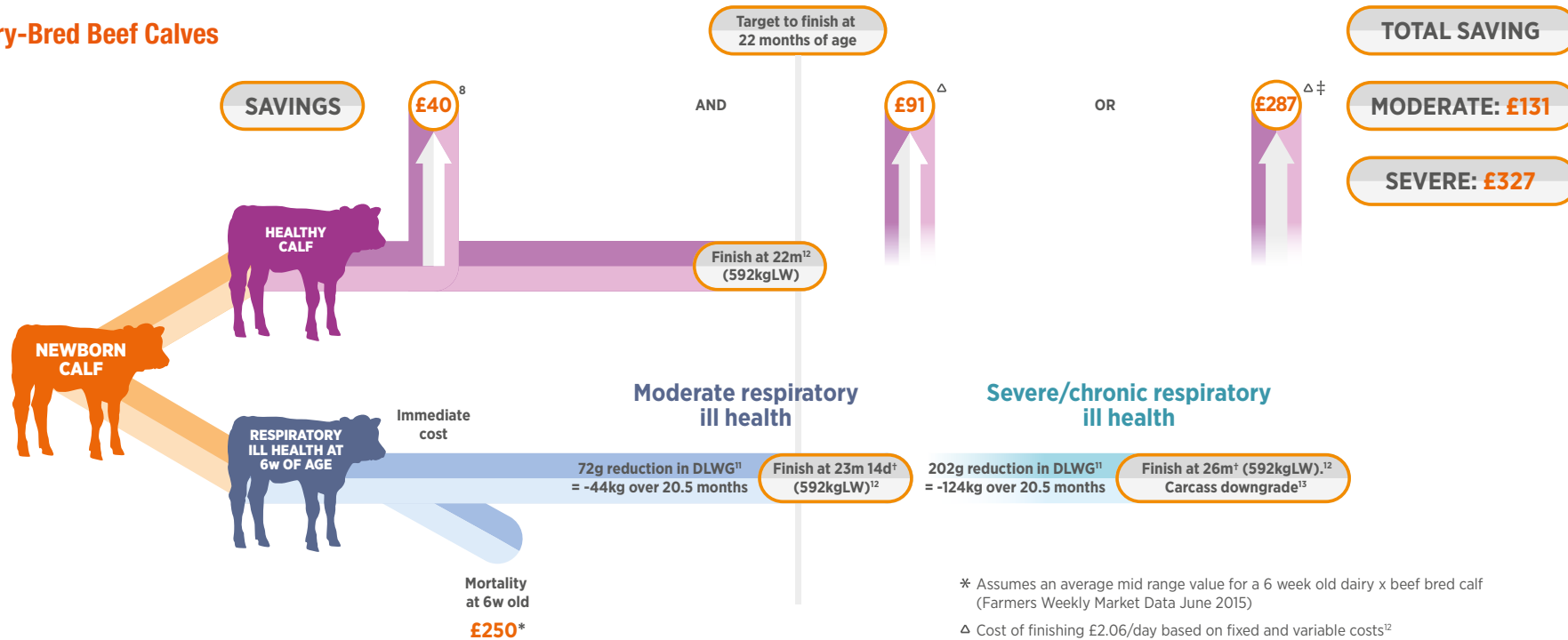
## Dairy-Bred Beef Calves

A UK study<sup>11</sup> examining calf lungs at slaughter showed that beef calves with healthy lungs gained 72g/day more than those with moderate lung damage, and 202g/day more than those with severe damage. Based on a 22 month finishing system, and assuming disease occurs at 6 weeks of age, this potentially equates to a difference in finishing weights at 22 months of 44kg in moderate cases, up to 124kg in severe cases. Carcasses from calves with good respiratory health also tended to grade higher than those from calves with lung damage, meaning not only a potentially heavier carcass, but also a higher price/kg dead weight. These gains are again in addition to the immediate savings from not having to treat cases of pneumonia, estimated at £40 per animal.<sup>8</sup> For reared beef calves, protecting calf respiratory health is critical to ensure calves attain weight for age targets from birth through to slaughter.



### Lifetime value of good respiratory health

#### Dairy-Bred Beef Calves



\* Assumes an average mid range value for a 6 week old dairy x beef bred calf (Farmers Weekly Market Data June 2015)

Δ Cost of finishing £2.06/day based on fixed and variable costs<sup>12</sup> (moderate ill health 44 days x £2.06 = £91, severe ill health 124 days x £2.06 = £255)

† Assumes a DLWG after 22 months of age of 1kg/day

‡ 324kg carcass conformation down grade from R4L to O+4L at -£0.10/kg deadweight (324kg x £0.10 = £32)<sup>13</sup>

Model based on EBLEX target data for a beef calf in a 22 month finishing system



## Influences on respiratory health

Respiratory health is influenced by infectious agents and environmental and management factors. The infectious agents include both viruses and bacteria (including *Mycoplasma bovis*) but most outbreaks of pneumonia start with a virus, and in young calves BRSv and Pi3v are two of the most important.<sup>14</sup> Blood samples taken throughout 2014 from 2271 calves on farms with pneumonia problems showed 76% had been exposed to BRSv and 83% to Pi3v.<sup>15</sup> The viruses are a very common threat which means that many calves, including yours, have potential to benefit from early and effective protection.

## Improving respiratory health

### Vaccination

Combined with other measures aimed at ensuring good respiratory health, early protection, through vaccination, against the key viruses should be an integral part of good calf management.

### Ensure adequate colostrum intake

New-born calves rely on antibodies from colostrum to help protect them. They should receive at least 10% of body weight in the first 12 hours, receiving at least half of this (3 litres of colostrum) ideally in the first 2 hours. Calves should be fed in a calm environment to reduce stress, so maximising absorption of the important antibodies. However, colostrum alone will not reliably protect respiratory health, even if from vaccinated cows.

### Ensure housing is draught-free, well ventilated, warm and dry

Young calves need a draught-free environment with plenty of clean, dry bedding for nesting and keeping warm. The housing should be well ventilated to prevent viruses becoming 'trapped' in the stale air.

### Manage group sizes

From 8 weeks of age calves should be group-housed. Grouping them pre-weaning, when milk replacer is halved, helps improve intake of solid feed, and reduces the risk of reinfection.<sup>16</sup> Ideally there should be no more than 30 calves sharing the same airspace<sup>17</sup> and not with older cattle that can be a source of infection.





## Benefits of vaccination to protect respiratory health

- The potential financial benefits from improvement in lifetime productivity outweigh the initial cost of vaccination
- Vaccination can help maximise lifetime productivity, through reduced losses and improved financial returns
- Vaccination helps reduce the work associated with unplanned treatment and management of calves with poor respiratory health
- Improved animal welfare

**For farmers who take pride in the health and performance of their stock, vaccination makes sense**

## Early, fast protection with Rispoval® IntraNasal

Rispoval® IntraNasal has been specifically developed to give young calves the earliest pneumonia\* protection available.

- Earliest protection against the 2 key viruses which cause pneumonia in young calves – BRSv and Pi3v<sup>14</sup>
- Effective in the face of antibodies derived from the colostrum
- Use from 9 days of age
- Immunity occurs just 5 to 10 days after a single dose – no other vaccine protects earlier
- Immunity proven to last at least 12 weeks, ensuring calves are protected during their most vulnerable period
- Viruses are at the root of the majority of respiratory health problems; so ensuring early protection will help reduce the threat from secondary bacteria such as *Pasteurella*

\*Against BRSv and Pi3v



**Talk to your vet  
about releasing  
their potential with  
Rispoval IntraNasal.**

**Use from just 9 days of age**



# Rispoval<sup>®</sup> IntraNasal

Release their potential



## Presentation

A freeze-dried fraction containing modified live Bovine Pi3v, ts strain RLB103, (105.0 to 108.6 CCID50) and modified live BRSv, strain 375, (105.0 to 107.2 CCID50) supplied with sterile diluent. For active immunisation of MDA positive or negative calves from 9 days of age against BRSv and Pi3v, to reduce the mean titre and duration of excretion of both viruses. Do not use during pregnancy/lactation. Vaccinate only healthy animals. On rare occasions repeated exposure to BRSv may trigger hypersensitivity reactions.

Once reconstituted use within 2 hours. [POM-V]

## References:

1. BACH, A. (2012) J Anim Sci 90, 1835-1845
2. VAN DER FELLS-KLERX, H.J. *et al.* (2002) Livestock Production Science 75, 157-166
3. BACH, A. (2011) J Dairy Sci 94 (2), 1052-1057
4. MORRISON S. (2011) Zoetis Conference Rhodes ([www.afbini.gov.uk](http://www.afbini.gov.uk))
5. ZOETIS market research (2006)
6. WITTUM, T.E. *et al.* (1996) JAVMA 29(4), 814-818
7. BRICKELL, J.S. *et al.* (2009) Animal 3(8), 1175-1182
8. ANDREWS, A.H. (2000) Cattle Practice 8(2), 109-114 (cost of disease not including mortalities)
9. [www.dairyco.org.uk](http://www.dairyco.org.uk) (May 2015) 'The economics of heifer rearing' Dr Alana Boulton, Royal Veterinary College.
10. [www.dairyco.org.uk](http://www.dairyco.org.uk) - (Feb 2015) Promar Milkfinder Dairy Costings
11. WILLIAMS, P.M. & GREEN, L. (2007) Cattle Practice 15(3), 244-249
12. EBLEX Stocktake Cost of Production 2013-2014 - Beef finishing over 16 months of age. (Model and costs based on data for a beef calf in a 22 month finishing system, with an average finished weight of 592kg LW and 324kg DW)
13. EBLEX BRP - Marketing Prime Beef
14. GRAHAM, D.A. *et al.* (1998) J Vet Diagnostic Investigation 10, 43-48
15. ZOETIS respiratory serology surveillance scheme January - December 2014 (n=2271)
16. BACH, A. *et al.* (2010) J Dairy Sci 93, 413-419
17. Dairy Co (2012) Dairy Housing – A Best Practice Guide

For further information please contact your veterinary surgeon or Zoetis UK Ltd, Walton Oaks, Tadworth, Surrey KT20 7NS. [www.zoetis.co.uk](http://www.zoetis.co.uk)  
Customer Support: 0845 300 8034

Use medicines responsibly ([www.noah.co.uk/responsible](http://www.noah.co.uk/responsible)).

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