

Is Lameness draining away your profits? The average 100 cow herd in the UK could be losing over £10,000 per annum...

In the UK it is estimated that the prevalence of dairy cow lameness is 30% with the average cost being around £350 per case. The majority of lameness cases are due to disease in the hoof, with the hind hooves being most commonly affected. A variety of factors may contribute to the development of hoof lesions, including: breeding, nutrition, housing design, flooring surface, farm tracks/raceways, herd management, stockmanship and concurrent disease.



Detect Lameness in Cows Early and Improve Dairy Cow Reproduction Performance

Prevention far outweighs treatment with early lameness detection having a positive impact not only on a cow's overall health, but also on its reproduction performance and profitability. Research indicates that lameness increases the average number of days that a cow is open by 25 – this is more than retained placenta, mastitis and ovarian cysts!

Many dairy producers assume that lame cows show fewer signs of oestrus, but research has shown that lameness changes the timing and behaviour of oestrus more than the incidence of oestrus itself. Research indicates that mildly lame cows actually ovulate earlier but show signs of oestrus later than cows that are not lame making it more difficult to breed her on time. Each additional day open costs dairy producers between £1.50 - £5.00 per day.

Lameness can also be associated with an increased culling rate. Cows with a locomotion score of 3 out of a 5-point scale, were 8.4 times more likely to be culled from the herd. According to the National Animal Health Monitoring Service (2007), the average dairy reports a 16% culling rate due to lameness and a 26% culling rate due to reproductive failure. However, it is possible that in a large portion of animals culled due to reproductive failure, was actually due to lameness.

Early Detection Key to Cow Hoof Problems

Making early detection of lameness in cows a priority on the dairy can help minimise its effect on health and cow reproductive performance. By training employees on the dairy to use locomotion scoring to help detect lameness early, producers can identify claw lesions at a milder stage before they become acute, painful and costly problems.

Research shows when cows are lame and first treated after five weeks, they only have a 25% recovery rate and a 40 % risk of culling. In contrast, when cows are lame and treated after only one week, they have a 91% recovery rate and just an 18% risk of culling. This demonstrates the benefit of early lameness detection and claw lesion identification on cow reproduction performance and herd culling risk.

Be Proactive in Detecting Lameness in Cows

Dairy producers can implement a lameness reduction program by regularly assessing cows, inspecting their feet and scheduling regular hoof trimming protocols.

Additionally, feeding performance trace minerals, including Availa® formulations, to your dairy cow nutrition plan can also aid in managing lameness. The unique, proprietary combination of zinc, manganese, copper and cobalt helps decrease the incidence and severity of common claw lesions.

Speak to one of the Dugdale Nutrition team for further information on reviewing your dairy herd to identify the risks and causes of lameness. We are happy to work with yourselves and your vet to reduce lameness incidence on your farm.

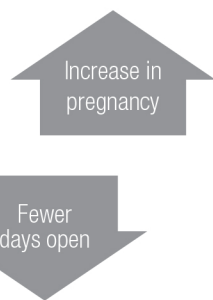
Lifetime Performance[®]

To truly thrive, dairy cattle must receive optimum trace mineral nutrition throughout their productive life stages.

Reproduction

Trace mineral status before and after calving directly affects reproduction. Feeding Zinpro Performance Minerals[®] to dry and lactating cows can help aid in an earlier return to ovarian function, leading to improved pregnancy rates and fewer days to conception.²

7%
13



Milk Production

Multiple studies show the correlation between feeding Zinpro Performance Minerals and improved production of milk with higher fat and protein yield. In mature cows this represents 274 kg more milk per lactation while heifers fed Availa[®]Plus added 200 kg more milk in the first lactation.^{2,4}

274kg ↑ Milk 200kg
Per lactation (cows) Per lactation (heifers)

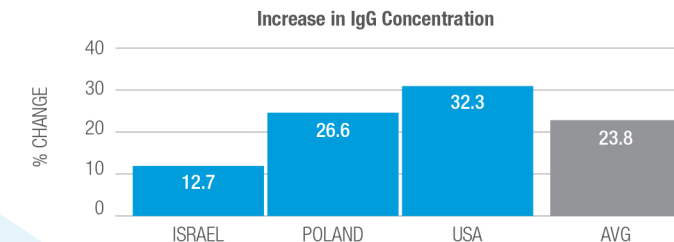
Lameness Management

Optimal nutrition is necessary for improved claw integrity during a cow's productive life. Research shows that cows fed Zinpro Performance Minerals had fewer non-infectious claw lesions, such as white line disease and sole ulcers⁵.

Immunity

Milk production, reproductive function and hoof integrity are greatly influenced by a strong immune system. Less-than-optimal trace mineral nutrition can result in greater susceptibility to disease and a lessened ability of the animal to respond to stress and immune challenges. Zinpro Performance Minerals have been shown to raise immunoglobulin (IgG) levels in maternal colostrum, which aids passive immunity for the newborn calf.¹

↑ IgG 23.8%



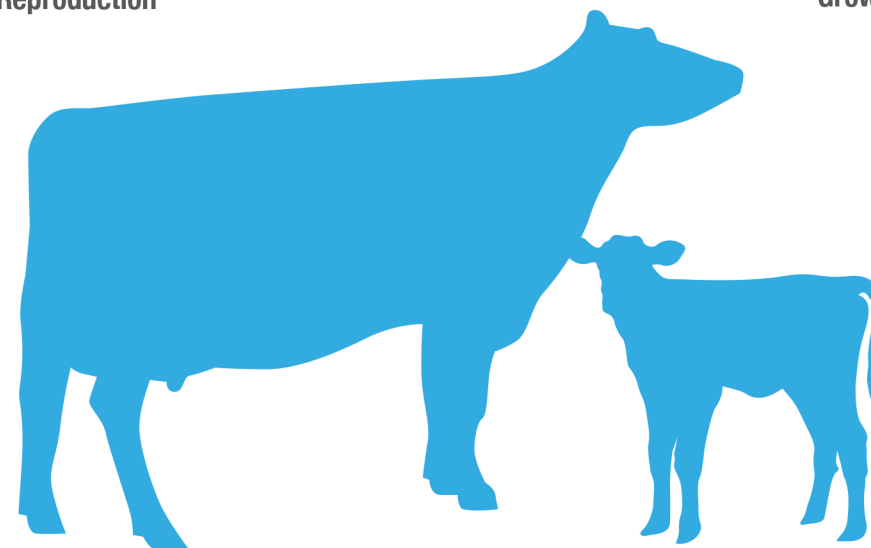
Dugdale
Nutrition

ZINPRO[®]
PERFORMANCE MINERALS[®]

At all stages of an animal's lifetime, optimum trace mineral nutrition has a positive impact

◀ Reproduction

Growth ▶



◀ Production ▶

DD Control

When a heifer contracts digital dermatitis before calving, she produces less milk and suffers decreased reproductive performance. Availa-Plus, when fed according to specific recommendations, has been shown to decrease digital dermatitis prevalence by more than 60%.⁴

60%

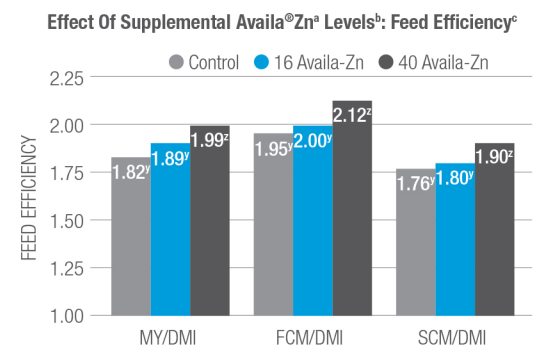


| Heifer Type (Pre-Calving) | Milk Loss (305 Days in Milk) |
|---------------------------|------------------------------|
| One DD Event | 199 kg |
| Multiple DD Events | 335 kg |

Feed Efficiency

When fed Availa[®]Zn at 40 ppm, cows need to consume less feed to produce the same amount of milk. Feed efficiency improved 9% vs the control animals in a recent study.³

9%



^a Availa-Zn: zinc amino acid complex
^b Treatments in lactation were (DM basis): Control, 75 ppm Zn from ZnSO₄; 16 Availa-Zn, 16 ppm Zn from Availa-Zn zinc amino acid complex + 60 ppm Zn from ZnSO₄; 40 Availa-Zn, 40 ppm Zn from Availa-Zn + 35 ppm Zn from ZnSO₄. All diets included 51 ppm Mn from MnSO₄, 9 ppm Mn from Availa-Mn manganese amino acid complex, 10 ppm Cu from CuSO₄, 5 ppm Cu from Availa-Cu copper amino acid complex, 1.1 ppm Co from COPRO[®] cobalt glucoheptonate; Calculated vitamin levels, Vitamin A, 4.14 IU/lb (9.12 KIU/kg); Vitamin D, 1.25 IU/lb (2.76 KIU/kg); Vitamin E, 11.34 IU/lb (25 IU/kg)
^c MY/DMI = milk yield/DMI intake; FCM/DMI = 3.5 % fat-corrected milk/DMI intake; SCM/DMI = solids-corrected milk/DMI intake
^{yz} Within a category, LS means lacking a common superscript letter differ, $P < 0.01$

¹ Kincaid and Socha, 2004. Prof. Anim. Sci. 20:65; Kinal et al., 2005. J. Food Ag. and Environ. 3:168. ² Rabiee, A. R., I. J. Lean, M. A. Stevenson, and M. T. Socha. 2010. Effects of feeding organic trace minerals on milk production and reproductive performance in lactating dairy cows: A meta-analysis. J. Dairy Sci. 93:4239-4251.

³ Nayeri, A., N. C. Upah, E. Sucu, M. V. Sanz-Fernandez, J. M. DeFrain, P. J. Gordon and L. H. Baumgard. 2014. Effect of the ratio of zinc amino acid complex to zinc sulfate on the performance of Holstein cows. J. Dairy Sci. 97:4392-4404. ⁴ Gomez, A. et al., 2015. First-lactation performance in cows affected by digital dermatitis during the rearing period. J. Dairy Sci. 98:4487-4498.

⁵ Nocek et al., 2000. Digital characteristics in commercial dairy herds fed 14 metal-specific amino acid complexes, J. Dairy Sci. 83:1553.

Minerals from Dugdale Nutrition

At Dugdale Nutrition, we now have a range of minerals to suit everyone.

DN iFeed Essential minerals:

Minerals using inorganic salts to meet standard requirements for suckler cows including a high level of magnesium for grazing cattle at risk of grass staggers, dairy cows and general purpose minerals.

DN iFeed Progressive minerals:

Minerals of a specification shown to improve performance of ruminants on farm, including Availa® formulations.

The range includes a Dry Cow Mineral, a Lactating Cow Mineral, an Intensive Beef mineral and a Heifer mineral with the Digital Dermatitis formula.

Our Progressive Mineral range all includes Availa® minerals which are proven to be more readily absorbed and utilised by the cow to ensure optimal results.

Over 60 research papers have shown the benefits to include lameness reduction, improved immunity and lower SCC, improved fertility, increased milk production, better feed efficiency and digital dermatitis control.

Our Progressive Heifer mineral contains the Availa® Plus formula which, if fed prior to signs of digital dermatitis occurring, will reduce the risk of this disease and provide protection through into lactation.

Bespoke minerals:

Minerals designed to suit your own farm following a full mineral audit. To develop these, we will analyse forages, water (if required), other feed inputs and all supplements used.

We will highlight any excess or deficiencies and can then specify a mineral that would suit your individual farm. If the minerals are purchased from us there will be no cost to this service.

iFeed 'Essential' Minerals

Dry Cow Essential 25kg

GP Essential 25kg

Dairy Essential 25kg

iFeed 'Progressive' Minerals

Progressive Dry Cow 25kg

Progressive Dairy 25kg

Progressive Beef 25kg

Progressive Heifer 25kg



Benefits of Zinpro Availa 4 Include:

1. Increased Milk Production
2. Better Reproduction
3. Improved Hoof Health
4. Improved Udder Health

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