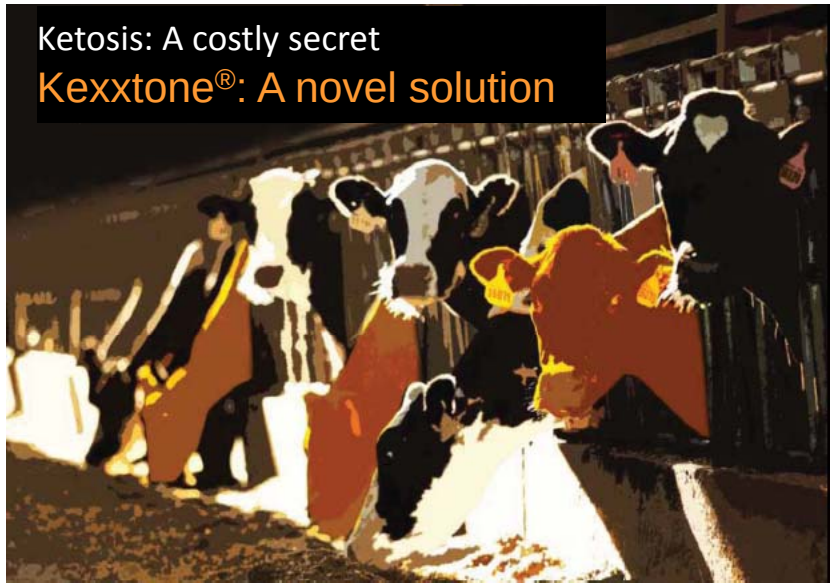
Kexxtone®

Reduces the incidence of ketosis

Easy to administer

Long term coverage

Elanco Kexxtone



Ketosis **WHAT?**

A common condition - affecting around 30% of cows

Ketosis **SO WHAT?**

Consequences: Impacts cow health, fertility & milk production

Costly: Expensive, stressful & cow welfare

Ketosis **NOW WHAT?**

Kexxtone – a novel solution

to reduce the incidence of ketosis

Contents

Kexxtone

1.Reduces incidence of ketosis

Kexxtone

2.Easy to administer

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3.Long term coverage

Introducing Kexxtone®

- One single bolus reduces the incidence of ketosis by 74%*
- One single bolus provides 95 days coverage
- 0 day withdrawal period – meat & milk
- Monensin, proven efficacy backed by >30 years research

*Ketosis >1000μmol blood BHBA/l

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Kexxtone® Mode of Action

Contains monensin

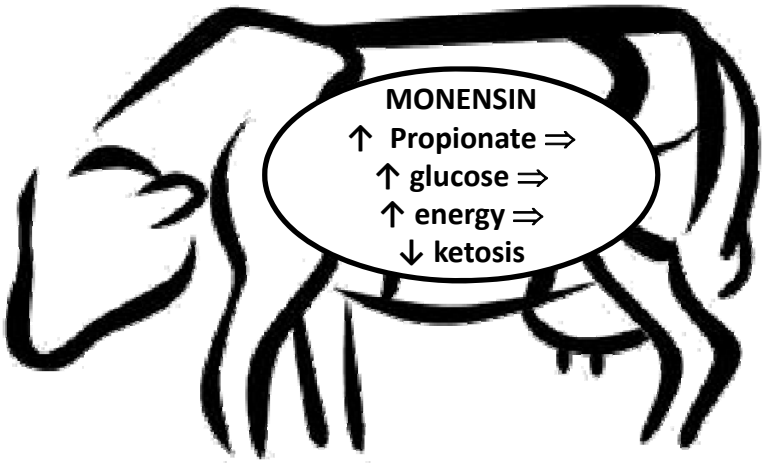
Shift in rumen microbial populations

More propionic acid

More glucose

More energy

Less risk of Ketosis



Monensin – backed by science

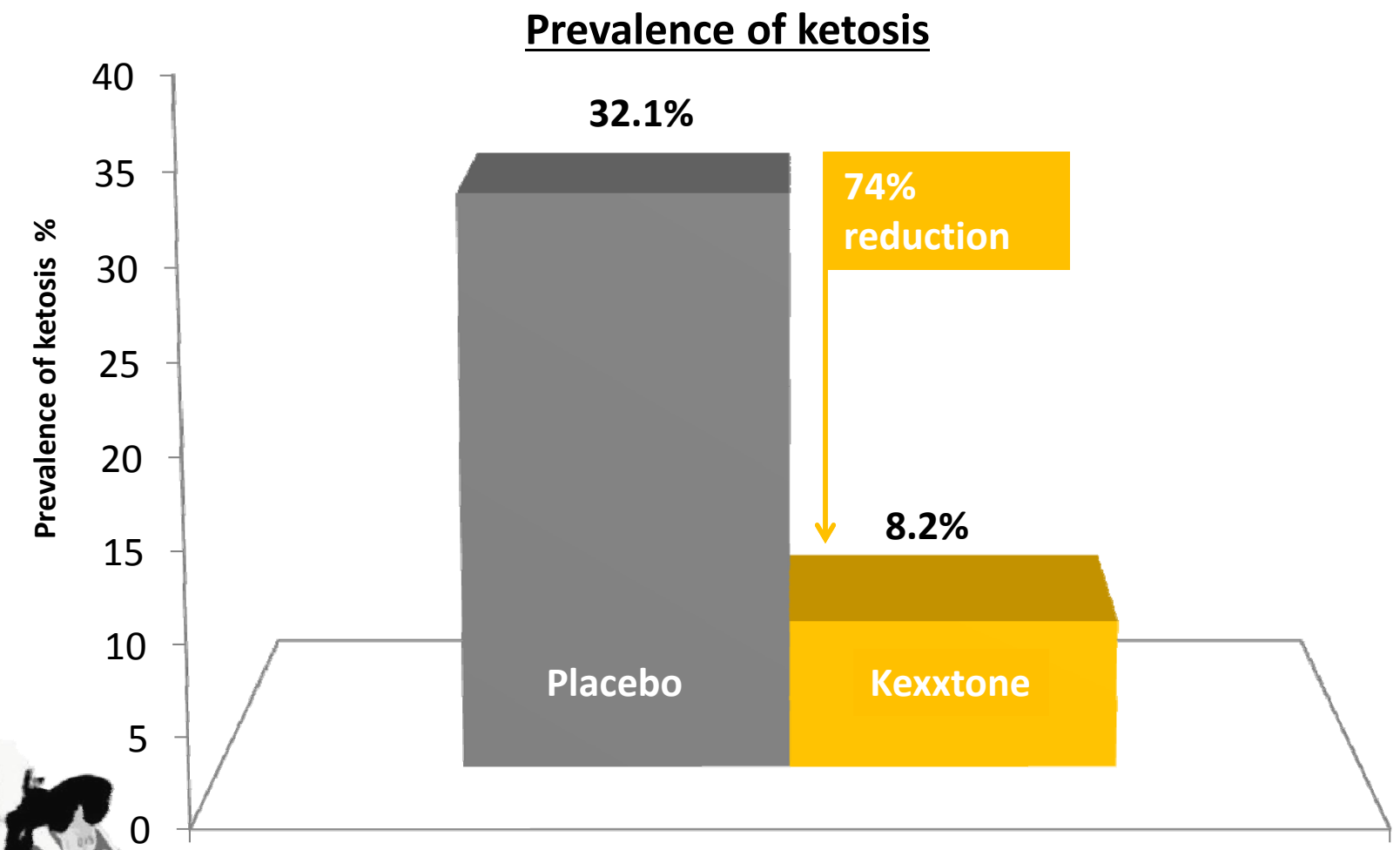
Meta-Analysis of the Impact of Monensin in Lactating Dairy Cattle
Metabolic Effects - energy related parameters

Variable	% change	Significance
BHBA*	**-13.4%**	P = 0.0001
Acetoacetate	**-14.4%**	P=0.003
Glucose	+3.2%	P = 0.0001
NEFA**	**-7.1%**	P = 0.006

*β-hydroxybutyrate
**Nonesterified Fatty Acids

Duffield *et al* 2008: A Meta-Analysis of the Impact of Monensin in Lactating Dairy Cattle. Part 1. Metabolic Effects J. Dairy Sci. 91:1334–1346

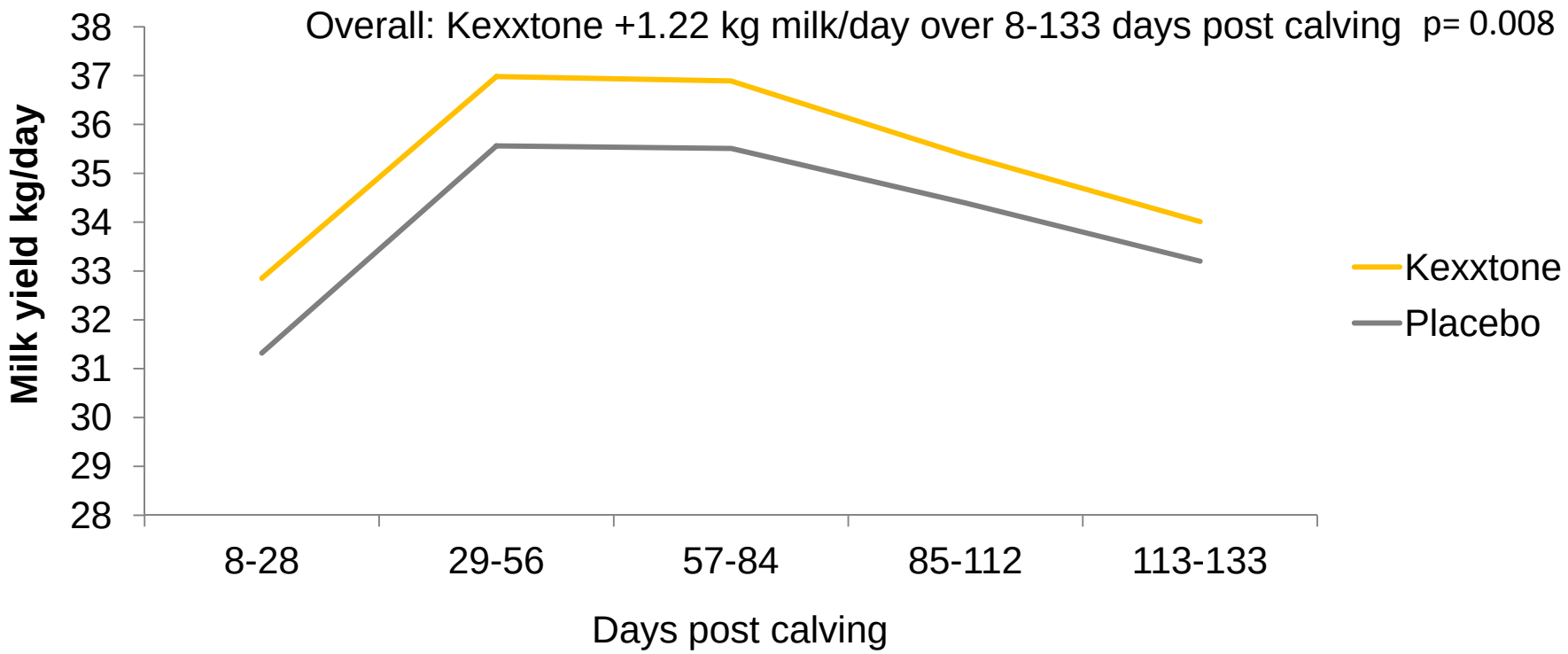
Kexxtone® reduces the incidence of ketosis by 74%



Ketosis: > 1000µmol blood BHBA/l
Measured 7-14 days post calving

Elanco clinical trial AA9CEU0801

Kexxtone® helps restore ketosis related milk losses



Ketosis prevalence (Blood BHBA >1000μmol/l, measured 7-14 days post calving)	
Placebo	**Kexxtone**
32.1%	8.2%

Elanco clinical trial AA9CEU0801

Kexxtone® maintains milk quality

	Placebo	Kexxtone	P value
Milk fat	3.83%	3.74%	0.8
Milk protein	3.08%	3.07%	0.8

Average 8-133 days post calving

Elanco clinical trial AA9CEU0801

Kexxtone®

Reduces incidence of ketosis

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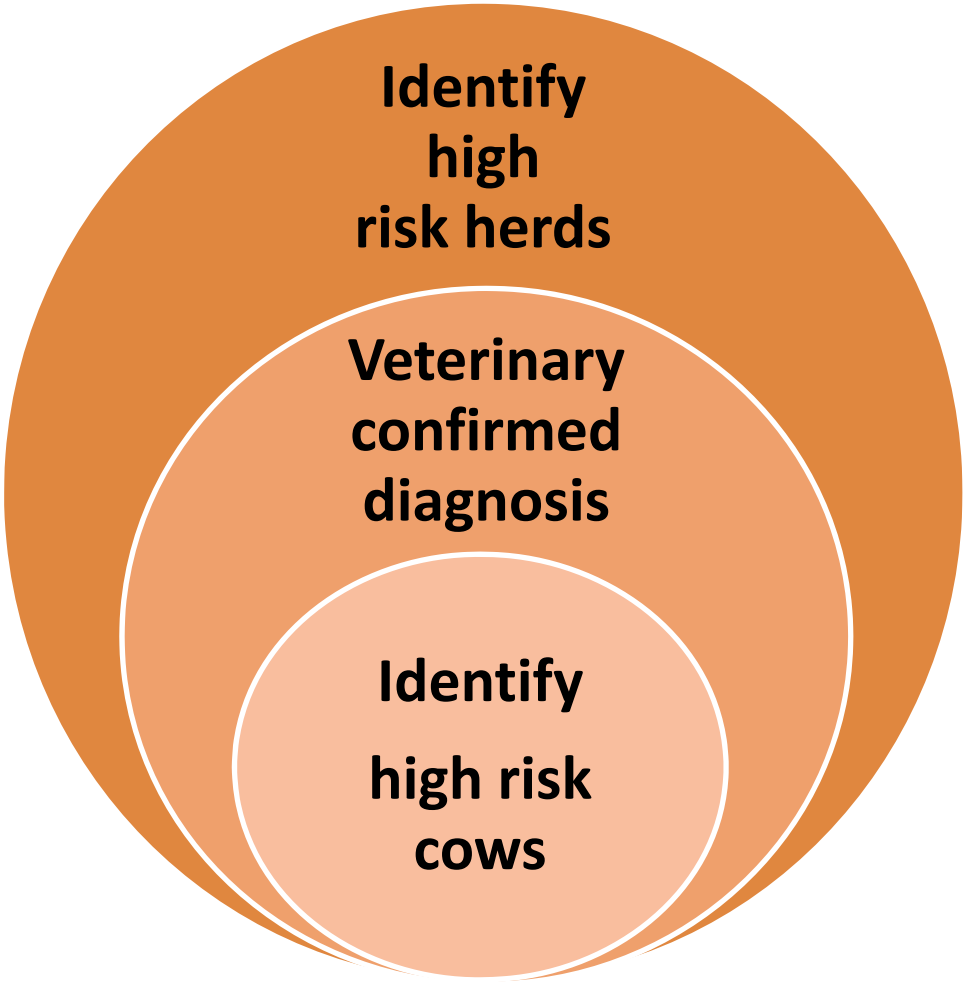
Easy to administer

Benefits

One dose	• Less hassle • No risk of missing doses
Targeted approach	• Responsible use • Only treating at risk animals
3-4 weeks before calving	• Easy to integrate into current transition cow protocol

Targeted Veterinary verified approach



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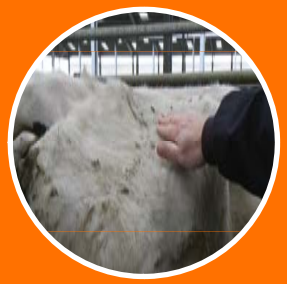
Is the herd at risk of ketosis?

Annual herd incidence of displaced abomasums >5%[1]



More than 10% fat cows (BCS≥3) 3 weeks before calving[1]

More than 25% test positive with Keto-Test[2]

More than 40% cows have fat:protein > 1.5:1 at the 1st milk recording after calving[1]

Factors indicating that a herd may have a problem with ketosis

1. Duffield, T. 2007. Peripartum Metabolic Monitoring. The AABP Proceedings Vol. 40, Sept. 2007; 2. Oetzel, G.R. 2004. Monitoring and testing dairy herds for metabolic disease. Vet. Clin. Food. Anim. 20:651-674, Table 7

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Is she at risk of ketosis?

- Parity 1 and 3+ [1,2]
- High body condition score (≥ 3.5) in dry period[3,4]
- Loss of body condition score during the dry period[5]
- Long dry period (>2 months)[6]

Individual cow risk factors for ketosis

- Twin pregnancy[7]
- History of energy-related diseases[8]
- Milk fat:protein > 1.5 in previous lactation[9,10]
- First calving >27 months[11]

1.Heringstad, Chang, Gianola, Klemetsdal 2005. Genetic analysis of clinical mastitis, milk fever, ketosis and retained placenta in three lactations of Norwegian Red cows. J. Dairy Sci. 88:3273-3281 .
2.Rajala-Schultz, Grahn, McCulloch 1999. Effect of milk fever, ketosis and lameness on milk yield of dairy cows. J. Dairy Sci. 82:288-294.
3.Gillund, Reksen, Grahn, Karlberg 2001. Body condition related to ketosis and reproductive performance in Norwegian dairy cows. J. Dairy Sci. 84:1390-1396.
4.Duffield 2000. Subclinical ketosis in lactating dairy cattle. Vet. Clin. North Am. Food Anim. Pract. 16:231-253.
5. Roche 2009. Invited review: Body condition score and its association with dairy cow productivity, health and welfare. J. Dairy Sci. 92 :5769â€“5801.
6. Santschi, et al. 2011. Incidence of metabolic disorders and reproductive performance following a short (35d) or conventional (60d) dry period management in commercial Holstein herds. J. Dairy Sci. 94 :3322-3330.
7. Fricke 2001. Review: Twinning in Dairy Cattle. Prof. Anim. Sci. 17:61-67.
8. Mulligan, O.Grady, Rice, Doherty 2006. A herd health approach to dairy cow nutrition and production diseases of the transition cow. Anim. Repr. Sci. 96:331-353.
9. Duffield, T. 2007. Peripartum Metabolic Monitoring. The AABP Proceedings Vol. 40, Sept. 2007.
10. Krogh 2011. Latent class evaluation of a milk test, a urine test, and the fat-to-protein percentage ratio in milk to diagnose ketosis in dairy cows. J. Dairy Sci. 94: 2360-2367.
11. Dam, et al. 1988. The effect of age at calving on reproduction, milk production and disease incidence in the first lactation of dairy heifers. Theriogenology Vol. 30, No. 3, 583-591.

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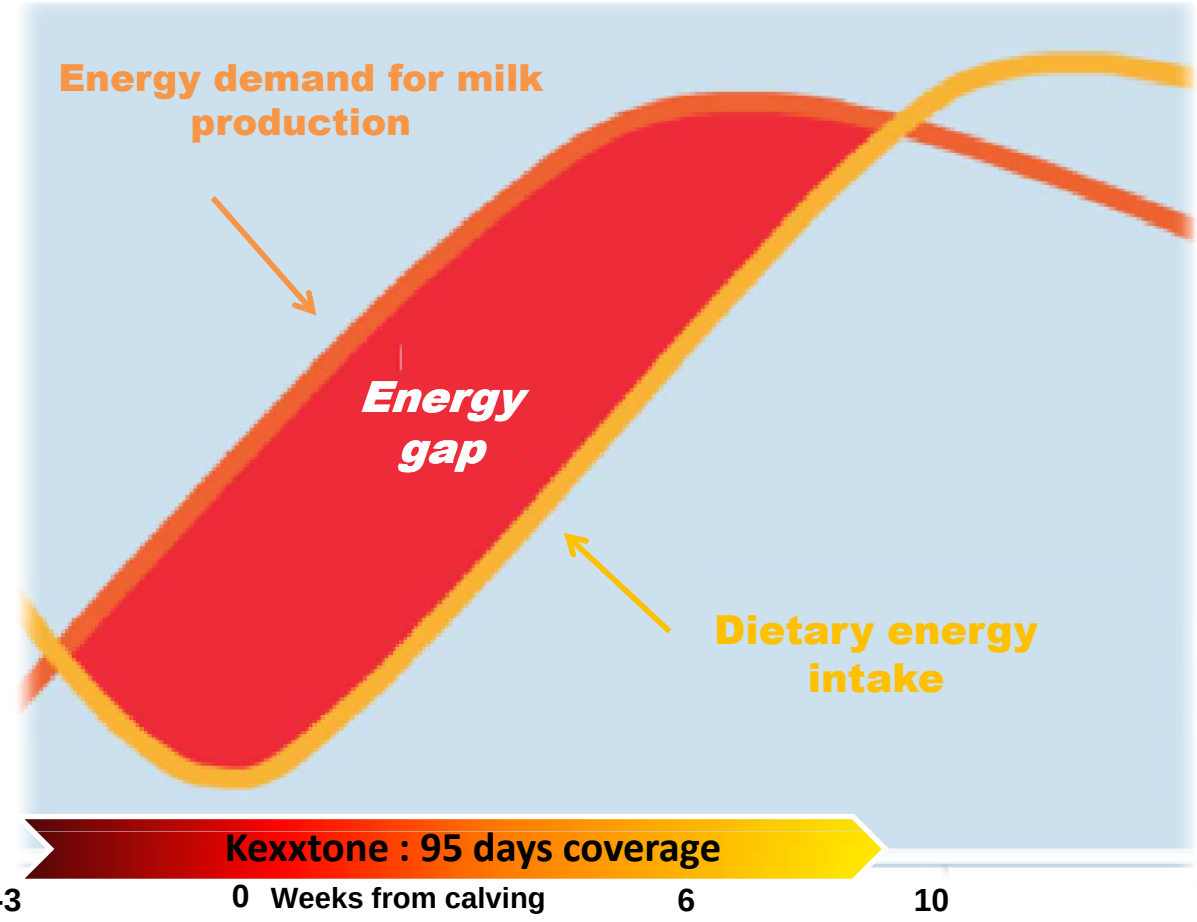

Daily dose 335 mg of monensin

Kexxtone benefits

Active ingredient - Monensin	• Improves efficiency of rumen fermentation *→ More energy from feed*
Bolus - Controlled release capsule	• Consistent release for ~95 days *→Long term coverage* • 1 dose *→Less labour, less hassle* • Active ingredient into the rumen irrespective of feed intake *→ Peace of mind*
Preventative	• Reduces economic losses due to ketosis *→ Less risk & More profit*
Administer 3-4 weeks pre-calving	• Rumen adaptation period to improve efficiency of fermentation late gestation & early lactation *→ A healthy start - Protection when she needs it*

Summary: Kexxtone®

Reduces ketosis	• Reduces the incidence of ketosis* by 74%[1]
Easy to administer	• One single bolus provides a consistent daily dose
Long term coverage	• 95 days coverage when she needs it

*ketosis being defined as a cow with blood BHBA levels > 1000 µmol/l

1.Elanco clinical trial AA9CEU0801

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