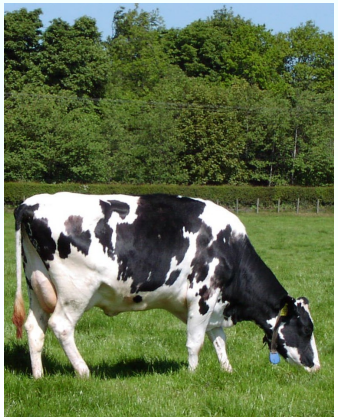

Monetary Benefits of being a Nutribio Customer

1. Dry Cow Management

- Pre Calver Super
- X Mag Vit E
- Transition Mineral
- TMR – G

Table 2: Grass Silage Analysis 2009

Macros	%	
Calcium (Ca)	0.64	Std
Phosphorous (P)	0.25	Low
Magnesium (Mg)	0.17	Low
Potassium (K)	2.22	Std
Sodium (Na)	0.29	High
Chloride (Cl)	0.88	High
Trace Elements	**mg/kg**	
Cobalt (Co)	0.21	Std
Copper (Cu)	9.41	Std
Iodine (I)	4.90	High
Selenium (Se)	0.05	Low
Manganese (Mn)	145.00	High
Zinc (Zn)	34.00	Low
DCAD(meq/kgdm)	**347.00**	**High for Dry Cow**

Problems associated with high DCAD levels

1. Sub Clinical Milk Fever - Clinical

Also known as the '***Gateway Disease***' *to other metabolic disorders.*

2. Retained Placenta
4. Ketosis
4. Displaced abomasum

• Metabolic Disorders

	Milk Fever	Rt.Placenta	Ketosis	LDA
Deaths%	4	1.5	0.5	2
Culls%	5	6	5	8

	Milk Fever	Rt. Placenta	Ketosis	LDA
Deaths (%)	4	1.5	0.5	2
Culls (%)	5	6	5	8
Delayed Conception (Days)	13	15	10	12
Discarded Milk (kgs)	0	150	0	140
Lost Milk (kgs)	130	250	230	575
C. Guard , Cornell-1998				
Average Cost - €	**312**	**392**	**320**	**515**
Average Cost - € (+35c/ltr)	**322**	**422**	**337**	**569**
Nutribio Database				
No. of cows - 16,141				
Metabolic Disorders (%)	3.8	4.7	1	1
Avg. No. of Cows/Herd -106	4	5	1	1
€ per herd	**1,248**	**1,960.00**	**320**	**515**
Total Cost - €	**4,043.00**			
€ per herd	**1,288.00**	**2,110.00**	**337**	**569**
Total Cost - €	**4,304.00**			

Table 1:
Metabolic Disorders

Nutribio
Precision Nutrition

Dry Cow Management

For further details please contact your local Nutribio Rep

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Dry Cow Management

Improved animal efficiency remains the biggest opportunity to maintain the long term viability of the dairy farm business. The dairy feeding program affects productivity and profitability more than any other single factor. The effect of good breeding and management programs cannot be fully realised without good feeding programs. The program outlined in this leaflet is that of the dry cow.

A dry cow program must take account of

1. Physiological changes that occur:

(a) Regeneration of mammary tissue.
(b) utrition for foetal growth (60% occurs in the last two months).
(c) Drop in dry matter intake in the last 3 weeks approximately 30%.

2. Management objectives:

(a) Cows must calve in an optimum calcium status.
(b) Immune system must be maximised for calving.
(c) Rumen papilla need to be stimulated to elongate in the transition period or last 3 weeks.
(d) Reduction of metabolic disorders at calving- which can cost up to €4,300.00 for a herd, see table 1.
(e) Produce high quality colostrum.

In the following questions and answers we will outline and highlight the requirements of a good dry cow program.

Q. When should management of the dry cow start?
A. In the last 100 days of the lactation so that a condition score of 3.25 can be achieved at drying off.

Q. Will concentrate supplementation be required?
A. Yes- digestibility of grass falls off, dry matter and sugars fall. Cows starting their last 100 days at 18lt-23lt of milk will require concentrates along with a quality buffer-DMD%75+ depending on grass availability.

Q. Will mineral supplementation be required with the lactating cow?
A. Yes, vegetative grass growth in the autumn can be high in potash giving rise to tetany requiring magnesium supplementation . Selenium levels are low in grazing swards along with copper, zinc and iodine.

Q. Is a dry period of 50 to 60 days adequate to build up optimum levels of trace elements?
A. No, In particular with regard to selenium where levels in a grazing sward are low and the conversion of iodine in its stored form in the thyroid of T4 to its active form T3 requires selenium constantly available. Low selenium will give rise to an induced iodine deficiency. Also minerals are carried by the red blood cells which have a life cycle of 100 to 130 days meaning that when a red blood cell is formed it cannot carry any more mineral. Therefore the dry period is a half the life cycle of a red blood cell, meaning supplementation should be for a longer period incorporating the last 100 days of the lactation.

Q. What options are there for supplementation ?
A. Concentrates depending on the level being fed. Liquid trace elements (Nutribio-Flowtrace Range) fed through the water offer a very flexible choice of all trace elements which can be matched to the blood and herbage profile to complement concentrate supplementation alongside grass in the autumn.

Q. When dried off what target is needed for forage quality?
A. DMD% = 70 min ; CP% 13.5-14 well preserved, the crude protein is critical to ensure optimum dry matter intake and condition score.

Q. Should the dry period be divided for management purposes?
A. Not really, but it should be noted that the far off dry cow(just dried off) needs to have the forage quality mentioned above available. The transition or close up period (21days pre calving) is critical in that the **management objectives above** along with the 30% drop in dry matter intake need to be managed in this period.

Q. How should the transition period be managed?
A. Records are critical particularly of metabolic disorders, retained placenta's and milk fever are the dominant ones, cost of these can be seen in table 1.

Q. What can be done to help prevent milk fever?
A. Analyse the forage if it is high in potash and sodium this will reduce the reabsorbing of calcium from the cows bones to boost her levels at calving and also reduce magnesium availability. With TMR feeding, inclusion of straw will enable this to be done depending on level being fed. Feed a mineral high in magnesium and vitamin D3.

Q. What can be done to aid prevention of retained placenta?
A. There is a certain level of staffaureus and e-coli present in the uterus which cannot be treated with antibiotics, research has shown that vitamin E status of the transition cow is critical for the expulsion of the placenta. The cows colostrum contains approximately 19mg of vitamin E, this represents a reduction of 47% in the cows levels. Therefore the vitamin E level in the mineral being supplemented needs to be high. The calcium and magnesium status of the cow at calving is critical as one of the largest organs in the cow is the uterus which requires calcium and magnesium for muscle contraction. Selenium and iodine status are also important.

Q. What should a quality mineral contain in specification with regard to the two mentioned metabolic disorders?

A.	Magnesium	20%-30%;
B.	Vitamin A	500,000ius/kg - 800,000ius/kg
C.	Vitamin D3,	15,000iu/kg - 25,000iu/kg
D.	Vitamin E	5,000 ius/kg – 15,000iu/kg
E.	Iodine	700mg/kg
F.	Selenium	60 mg/kg (25%-30% protected)

The feeding rate would be 100 grams/cow/day.

Q. What is the cost of a dry cow management program as outlined above incorporating the last 100 days of lactation?
A. Using a very high specification dry cow mineral €12.80 maximum, one case of milk fever can cost €312.00 and a retained placenta €392.00.

For further information on dry cow management please visit www.nutribio.ie.