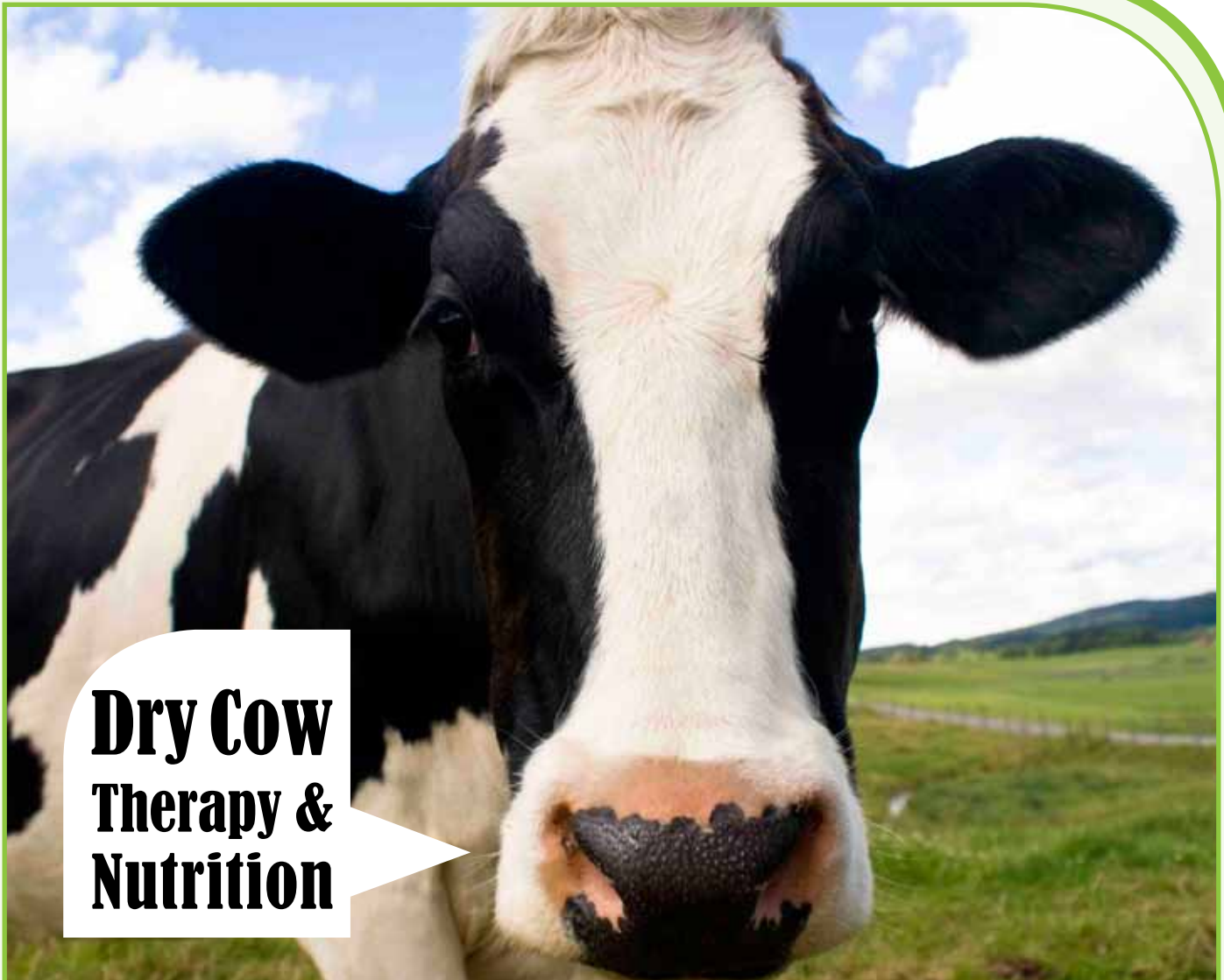


# BLACKWATER VETERINARY CLINIC

## Newsletter

*Mallow, Co. Cork.*



### **Dry Cow Therapy & Nutrition**

#### ***Blackwater Veterinary Clinic, co-founder of new veterinary organisation.***

We have co-founded Prime Health Vets which is a group of 9 Irish veterinary practices. While we will continue to operate our practice as before, we will be able to use PHV to supply you with topical and profitable advice through newsletters, and also be able to invite you to practical training days and seminars. As the only Irish based organisation of its kind, PHV links the unique qualities of Irish farm production with the demands of the global marketplace. The first seminar, Healthy Animals for Healthy Profits, takes place at Corrin Mart, Rathcormac, on Wednesday 3rd October. The speakers on the night will be Dr Paddy Wall, who is a world authority on food safety, and Riona Sayers, one of the most respected researchers on the effect that animal diseases have on animal health and therefore farm profits.

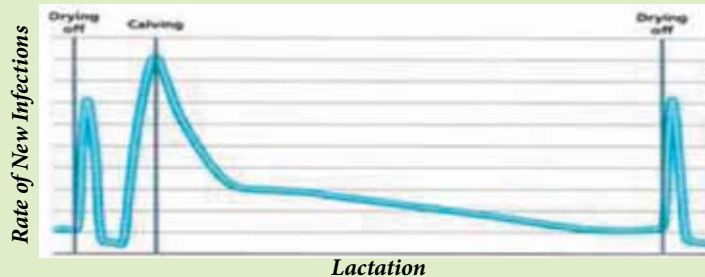
While we would be delighted if all clients would be able to attend this free event registration is required. To be sure of a place, please register for tickets with the office. **Tel : 022 22340**

# Dry Cow Therapy - The Facts



- Cows are highly susceptible to acquiring new infections over the dry period. Up to 60% of all new intramammary infections occur just after drying off or just before calving.
- The drying off period allows prolonged antibiotic treatment. The longer the activity of the treatment then the better the cure rate.

Risk of new infection during the lactation cycle



## A successful dry period relies on addressing 3 key areas:

### 1. Reducing infection challenge;

- Maintain the environment, clean, dry & well ventilated.
- Fly control
- Careful drying off routine

### 2. Optimising defences;

- Select appropriate dry cow therapy
- Consider using a teat sealant
- Reduce yield prior to drying off
- Insure adequate nutrition

### 3. Maximise cure;

- Select an appropriate dry cow antibiotic
- Prevent re-infection

When selecting a dry cow antibiotic, it is best to make this decision on a scientific basis i.e. take milk samples from 8-10 of the cows with the highest somatic cell count and a bulk milk sample. These samples should be tested for both bacteriological typing and sensitivity- only then can we advise you on the most appropriate tube to use. As a general principle use a tube with the longest period of activity possible. Ask us about the best treatment for **YOUR** herd.

### Probability of cure following intramammary antibiotic treatment depends on:

- Type of mastitis. Mastitis caused by Staph aureus (subclinical and clinical) can be difficult to treat and not all treatments result in a cure. Cure rates can vary from 20-70%.
- Age of cow.
- SCC(somatic cell count) >1 million cells/ml
- Heavy growth of bacterium when cultured
- More than one quarter affected
- Repeated cases in the same quarter
- Palpable udder abnormalities
- Infected for > 1 month
- Previous poor response to treatment.
- Environment.
- Length of treatment time.
- Treatment drug of choice.

**Bacteriological cure:** The bacteria are eliminated completely from the udder

**Clinical cure:** The cow, udder & milk return to normal & the bacteria may or may not be eliminated from the udder.

### Probability of bacteriological cure following intramammary antibiotic treatment:

Bacteria	During lactation	At time of drying off
<i>Staph, aureus</i>	Poor	Moderate
<i>Strep, agalactiae</i>	Very Good	Excellent
<i>Strep, dysgalactiae</i>	Good	Excellent
<i>Strep, uberis</i>	Moderate / Good	Very Good



Efficacy of blanket treatment of cows with an internal teat sealant in reducing the risk of clinical mastitis in dairy cows calving on pasture. The inclusion of internal teat sealants can dramatically improve udder defences and reduce new dry cow infections.

**PLAN AHEAD:** • Cows should be milking less than 12 litres per day at drying off. So reduce production by controlling the nutrient intake in the week before drying off • Maintain water intake • **ABRUPT** drying off is **CRUCIAL**.

**DAY of DRYING OFF:** • Milk cows fully and teat dip. • Mark and draft out cows to be dried off. • Have your breakfast before you tackle the demanding drying off procedure. Have no distractions or other jobs lined up.

**Items required:**

- Disposable gloves
- Teat wipes or cotton balls and spirit/alcohol (70%)
- Intramammary DC tubes ( and teat sealant-preferable)
- Animal Remedies and Herd Health Record books

The theory of using antibiotic dry cow therapy and teatseal is that the antibiotic helps clean up any existing infections and the teatseal seals up the teat preventing new infections right up to calving.

**TREATMENT PROCEDURE:**

1. Ensure your hands and the teats are clean.
2. Wear clean new disposable gloves.
3. Treat all quarters (except those already dried off).
4. Disinfect teat end completely, starting with those furthest away from you.
5. Treat the teats with Dry Cow Tube massaging it up into the udder. Start with the teats nearest to you. Only partially insert the nozzle into the teat canal when infusing.
6. Infuse the teat canal with teat sealant, blocking the top of the teat, near the udder. Only partially insert the nozzle into the teat canal when infusing. **DO NOT MASSAGE** after this.
7. Disinfect teats with teat dip which has been freshly prepared.
8. Mark cows with visible marking.
9. **RECORD** the cow ID, date and product(s) used. Also record the expiry date for safe calving or culling (if this suddenly arises).
10. Keep cows standing for a minimum of 1 hour and turn out to a clean dry field or clean dry house, depending on your situation.



Following dry cow treatment, Visually check all udders for signs of swelling.

Investigate and treat (if necessary) all infected quarters.

Reapply dry cow therapy once infected quarter is cured.

## Dry Cow Nutrition

### INTRO

How we feed our cows during the dry period is very important. The incidence of cow health issues around calving and in early lactation can be significantly reduced by active analysis of the dry cow diet and planning ahead. This will ensure better year end profits.

We, your vet, can help you analyse your dry cow diet and your cows' specific dietary requirements thus helping prevent outbreaks of disease in the spring of 2013.

### ENERGY CONTENT OF THE DRY COW DIET

*"We want cows fit not fat"*

To assess the dry cow diet we need a good silage analysis that provides us with a UFL value.

To evaluate the dry cow nutrition on the farm we must first calculate how much energy is required by your cows for maintenance, Body Condition Score (BCS) gain and development of pregnancy during the dry period. Energy Balance calculations are easier when cows are on indoor diet. With the aid of silage analysis, daily consumption, cow weight and her stage of pregnancy, we can calculate her daily feed consumption from a formula, calculating if the cow has too little or too much to eat.

### MONITORING ENERGY BALANCE

Helps us to correct BCS issues and prevent excessive Negative Energy Balance. Cows with excess BCS at calving eat less in the 14 days pre-calving and so suffer excessive negative energy balance at calving. This leaves their immune systems very weak and they are more prone to other diseases especially RFM (held cleaning) and displaced abomasum (displaced stomach).

Helps prevent ketosis and fatty liver disease which costs up to 200 euro per case, and milk fever which on average costs 300 euro per case (very thin cows and over fat cows are more prone to milk fever). Target incidence for ketosis is less than 5%. Even though the sums add up we must be mindful of trough space, head space, slippery floors, dominance etc. Lastly cows should be conditioned scored at drying off and grouped so that we can calculate how much to feed each group.

Generally thin cows (BCS 2.5 or less) require good quality silage and extra ration and fat cows (BCS 3.5 or greater) need restricted silage and ad lib straw. Restriction must not be started within 6 weeks of calving or else we can actually see an increase in the levels of ketosis and fatty liver disease. To monitor energy balance in cows they can be blood tested around calving (usually 7 to 1 day before calving).

### MILK FEVER

Milk fever (hypocalcaemia) is an underestimated disease on Irish farms. It is a deficiency of calcium in the blood. Milk fever can cost up to 300 euro if you include the farmer's labour cost, the decreased milk yield and the likelihood of the cow getting another related disease e.g. mastitis and LDA's. A fatality due to milk fever can cost up to 2,453 euro. For every case of milk fever that you see (a clinical case) there are 9 cases of sub-clinical milk fever that you don't see. These lead to slow calvings, retained afterbirths, womb infections and subsequent infertility.

Target incidence of milk fever on farms is less than 5%.

Milk fever is a complex disease with many predisposing factors. The most important factor that we can control is the dry cow diet. Strategies that prevent milk fever are far more

beneficial than just supplementing calcium at calving.

**1. BCS control to prevent milk fever**

We want 90% of cows between BCS 2.75 and 3.25 at calving

**2. Magnesium supplementation to Control Milk Fever**

Magnesium is the most important dietary factor in the prevention of milk fever. Requirements vary from farm to farm and should be discussed with your vet/nutritionist.

To monitor dietary magnesium we can do a dry cow diet analysis and also can blood sample cows close to calving (24 - 48 hours pre calving).

**3. Calcium Restriction to prevent Milk Fever**

By restricting dietary calcium we encourage the cow to draw on her own stores of calcium to help prevent milk fever, though this is not always possible on Irish farms as Irish grass silage is often quite high in calcium (silage analysis helps here).

**4. Changing the Dietary Cation Anion Balance to prevent milk fever.**

The DCAB is the measure of the ph of the cow's diet. Calcium regulation works best at a negative ph. To change your DCAB to negative you can add certain salts to the diet. Usually a diet feeder is required to do this.

Ensuring a negative DCAB is difficult if the potassium content of the diet is high, simply lowering the potassium content of the diet even if the DCAB is not lowered can help prevent milk fever. The potassium content can be lowered by changing fertilisers and not using pig slurry. DCAB diets and calcium restricted diets cannot be used together as this will increase the number of cases of milk fever.

**5. Other methods to treat milk fever**

There are other products that can be used to treat milk fever, calcium injections, vitamin D injections and calcium drenches and boluses. Please discuss these with your vet.

**HOW DO I MONITOR THE CALCIUM STATUS OF THE HERD?**

We can blood sample cows close to calving (within (12-24hrs) of calving) to check for Calcium levels.

**TRACE ELEMENTS (MINERALS) TO PREVENT RETAINED FOETAL MEMBRANES (RFM)**

The average cost of a retained foetal membrane (held cleaning) is 392.42 euro. The target incidence of RFM should be less than 5%. Poor trace element/antioxidant status is a common cause of RFM leading to metritis, endometritis and infertility. Trace element supply in the dry cow diet is vital to ensure good uterine health around calving.

The most important Irish trace elements are Copper, Iodine and Selenium. Deficiencies at grass are common and so Irish silage is also often lacking in these vital trace elements.

Please talk to your vet about assessing the trace element status of your herd during the dry period via blood sampling dry cows (10-12 cows) and the trace element supply of the diet via silage analysis etc.

We find blood samples the most useful as milk sample for minerals are quite inaccurate. Blood samples for Copper can be inaccurate and so liver biopsies can be performed to confirm deficiencies.

***Recommended Daily Allowance of Minerals for Avg. Cows***

Mineral	Minimum (g)	Maximum (g)
Copper	150	450
Iodine	12	60
Selenium	3	5
Cobalt	5	10
Manganese	335	415
Zinc	335	750

**DRY COW NUTRITION LDA PREVENTION**

The average LDA costs 515 euro. The target incidence on farm is less than 3%. The consequences of an LDA are decrease in milk production, worsening of negative energy balance around calving and so predisposing the cow to other diseases and decreased subsequent fertility.

What can we do to prevent an LDA??

Over fat cows eat less at calving, have worse immune systems due to negative energy balance and have emptier stomachs and so are more prone to LDA, so we must aim for ;

- An adequate transition cow diet that gradually builds up concentrate feed in the first 14 days after calving.
- Increased rumen fill (fullness of stomach) at calving by having available palatable forage in the calving pens.
- Limit other health issues around calving e.g. RFM, ketosis and metritis.
- We must strive for optimal BCS. The incidence of LDA in high BCS cows is 15.7%.
- Prevent milk fever as this significantly increases the risk of LDA.

**BODY CONDITION SCORING**

Body condition scoring is the appraisal of a cow's fat reserve through a combination of handling and visual assessment.

It allows cows to be scored from 1 (thin) to 5 (very fat) in increments of .25.



*Images of Cow with BCS of 3.0- The ideal BCS for calving.*

**WHY BCS?????**

It helps monitor condition score losses and gains. BCS loss in early lactation is inevitable however the loss of > than one unit at this time can mean first service conception rates as low as 17-38%.

Cows with BCS lower than 2.5 can stop cycling (become anoestrus) or can continue to cycle but produce poor quality eggs that won't become a pregnancy.

Excess BCS gain in the dry period is very common and can lead to all the aforementioned disease states.

If we don't monitor BCS how can we know if BCS changes are leading to these issues on farms?

High Yielding grazing cows can suffer profound negative energy balance and BCS loss during the breeding season, due to grass shortages and so concentrate supplementation is vitally important to help cow fertility.

Time	Optimal Score
Drying Off	2.75
Calving	3.0
Breeding	>2.5
150 Days in milk	2.75
200 Days in Milk	2.75
250 Days in Milk	2.75

**WHEN TO BCS**

If possible we would like 90% of the herd to be at these BCS at these times.