

# GAIN

ANIMAL NUTRITION

# *Superchoice*

M I N E R A L S

 Tirlán  
FarmLife

**GAIN THE ADVANTAGE**  
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**ANIMAL NUTRITION**

# *Superchoice*

**M I N E R A L S**







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MVM DVMS  
Tirlán Veterinary Advisor

Magnesium is regarded the single most important dietary factor with regard to Milk Fever control. 20-30 grams of Magnesium are required daily from the dry cow mineral fed throughout the dry period. High levels of Potassium (K) in the cow's diet (usually from grass silage) increase the need for Magnesium supplementation because Potassium (K) counteracts the effect of Magnesium in Milk Fever prevention.

Additional vitamin supplementation is of value, mainly during the dry period. Vitamin A, Vitamin E and Selenium play an important role in supporting the immune system of the transitioning cow and are essential components of colostrum, depleting the cow's reserves by 50% around calving. Vitamin D3 is critical in the uptake of Calcium from the cow's gut as well as mobilising Calcium stored in the cow's bones to prevent Milk Fever around calving.

**GAIN**

**MOMENTUM**  
PROGRAMME

**HERD NUTRITION**  
ENHANCING NUTRITION AT EVERY STAGE

**HERD HEALTH**  
ANIMAL HEALTH & WELLBEING





# GAIN The Advantage with Superchoice Minerals

One of the single biggest challenges on a dairy farm is to have a calving season free from metabolic problems such as: Milk Fever (and related problems), Ketosis, Displaced Abomasum, Retained Placenta and Fatty Liver Syndrome. All have their genesis in dry cow management.

A single case of Milk Fever is estimated to inflict costs/ losses of circa €300 and a sub-clinical case >€100. Research demonstrates that **for every clinical case that manifests itself on farm there are up to 6 sub-clinical cases that go undetected.**

The best investment on dairy farms is a good dry cow management programme. Body condition management is important and best practice is to dry off cows at, or very close to the best body condition score at calving (3.25). Any losses in body condition prior to or post calving will impact on future reproductive performance.

Avoiding metabolic problems and improving the general health and disease resistance of both the cow and the new born calf is best achieved through following a quality Dry Cow Mineral Programme.





## Mineral Nutrition is best viewed as Macro and Micro Mineral issues

Macro Minerals include Calcium, Phosphorous, Magnesium, Sodium and Potassium.

These minerals and their interactions will drive most metabolic issues, whereas minerals such as Selenium, Copper, Zinc, Cobalt, Iodine, Manganese are primarily responsible for disease resistance, immunity and reproductive performance.

### The challenge

The biggest single challenge is the avoidance of Milk Fever. Milk Fever (hypocalcaemia) most commonly occurs in freshly calved cows. The sudden increase in demand for Calcium (Ca) at the onset of lactation, presents a major challenge to a cow's homeostatic control mechanism. The onset of lactation increases the demand for Calcium. Each litre of milk requires circa 2 grams of Calcium. In attempting to bridge the Calcium deficit the cow's blood Calcium level falls too low resulting in clinical or sub-clinical Milk Fever.

Research has shown in these situations, that the Dry Matter Intake (DMI) of affected cows can drop to 30% of normal and plasma Cortisol level can double thus inducing immune suppression (*Ref: Dr Sandra Godden*).

The graph below shows the factor by which clinical or sub-clinical Milk Fever increases the likelihood of common transition cow issues.

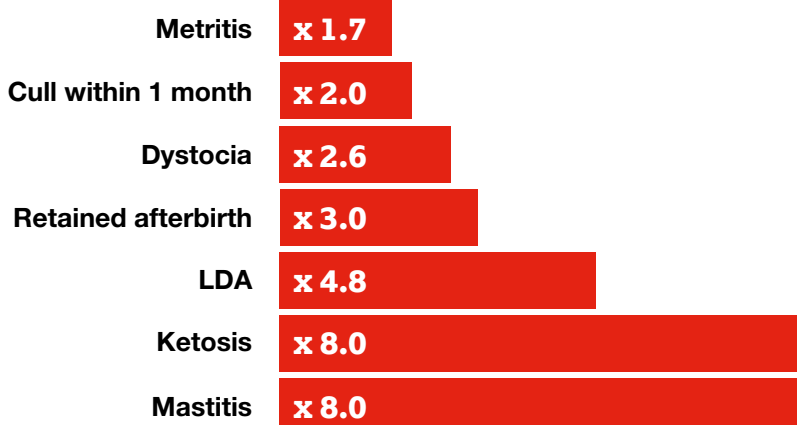
Based on the information, avoiding any incidence of Milk Fever is a key goal (albeit with the multitude of causative factors, including the forage mineral analysis, genetics and parity, zero incidences may be unattainable).

Irish Forage (grass based) has been shown in many surveys to contain categorical deficiencies of key trace elements (Selenium, Copper, Zinc, Cobalt and Iodine) and an excess of Iron & Molybdenum. With respect to macro elements there is normally an excess of Potassium, Sodium, Chlorine, and a deficiency of Calcium and Magnesium (adding to the Milk Fever prevention challenge).

The "Superchoice" range of minerals has been formulated to reflect those realities and provide best in class solutions. The "**Superchoice Gold**" Range also incorporates Sel-Plex<sup>®</sup> and Bioplex<sup>®</sup> minerals that have been shown in research to deliver additional benefits to calf health, calf growth rate, with better production and reproduction when they become cows.

Superchoice Pre-Calver Gold provides a high level of Magnesium (>30 grams at the recommended rate) to counteract Potassium and improve the efficiency with which the cow can absorb Calcium.

### Milk Fever increases the likelihood and severity of common transition cow concerns



**Successful prevention of Milk Fever will substantially reduce the risk of many other problems.**

# Key Benefits

- Helps prevent Milk Fever after calving
- Reduces the chances of retained placenta
- Supports quicker and better calving
- Supports the immune response of the unborn calf
- Stimulates the immune response of the cow
- Results in good quality colostrum and calf thrive

Fed at the recommended rate (120 grams/day) for a 6-8 week period, it is proven to deliver superb results. Where forage/silage potassium levels are above 1.8-2% it is recommended to dilute it with alternative forage. Where Potassium levels are stubbornly high and no alternative forage is available, feeding a high level of Calcium or administering a Calcium bolus at, or just after, calving may deliver benefits. Practical considerations are important. Where feed barrier space is restricted, spread the mineral twice/day on the silage.

Keep the mineral feeding programme so simple that anyone will be happy to do it. Feeding the correct amount consistently is best practice. Select the product that matches your forage type and feeding regime.

## Key benefits of Sel-Plex® (Selenium) and Bioplex® (Zinc, Copper and Manganese)

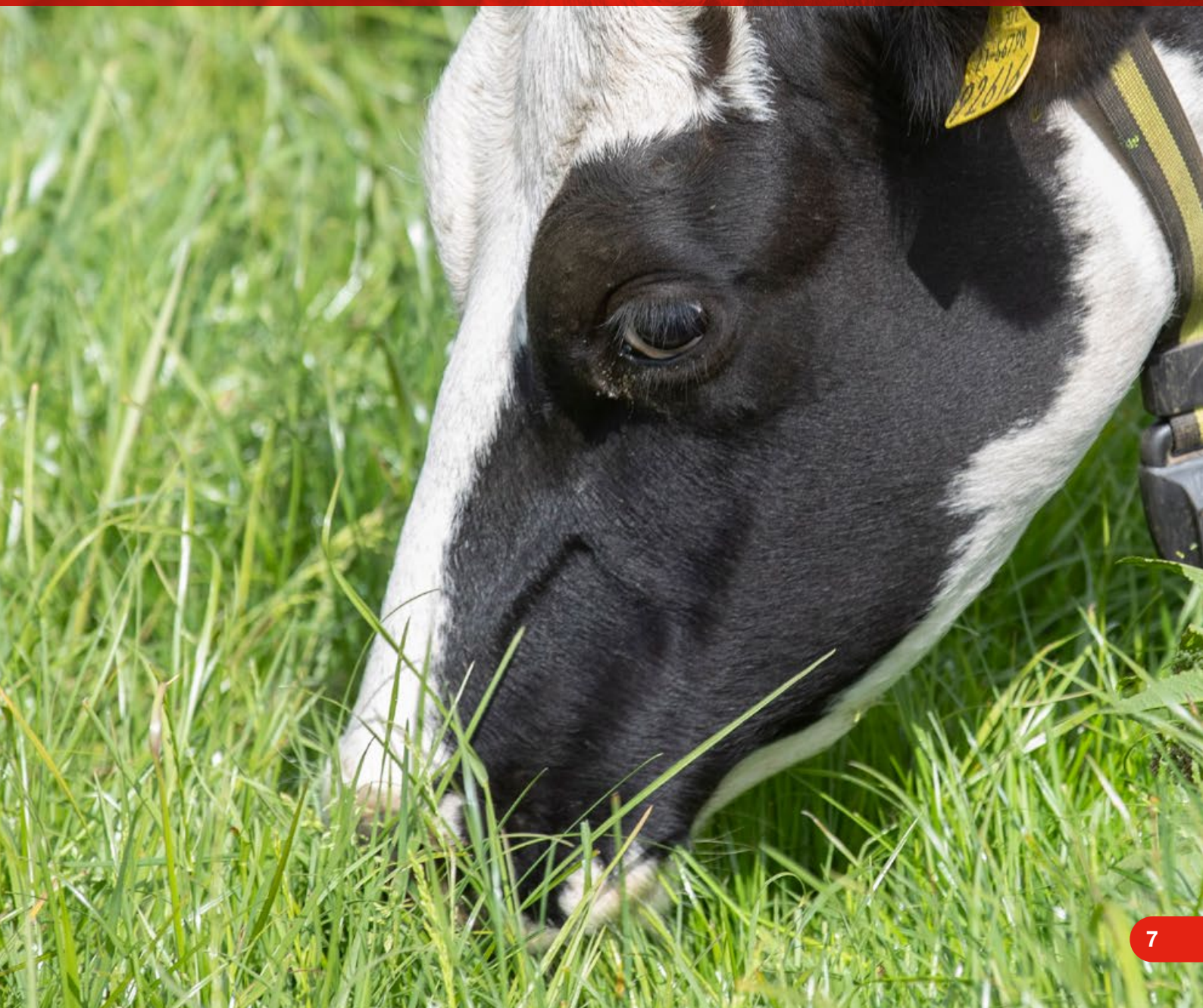
Performance Measure	Impact	Trial Reference
<b>Calf mortality</b>	Reduced from 4.78% to 2.05% (P<.01)	<i>OT Research Feed yard, University of Milan</i>
<b>Respiratory mortality</b>	Reduced from 2.5% to 1.02%	<i>Penn State Dairy</i>
<b>Unhealthy calf probability score</b>	Reduced from 15% to 4%	<i>Gelsinger et al.</i>
<b>Age at first calving replacement heifers</b>	Reduced by 26 days (P=.05)	<i>Felipe Pino: Penn State</i>
<b>Milk production of next generation 1st lactation</b>	Plus 170Kgs in the first 100 days in Milk with a lactation prediction of plus 350 Kgs	<i>Felipe Pino: Penn State</i>
<b>Reproduction performance</b>	Pregnancy confirmation 8 days earlier year 1 and 18 days earlier year 2.	<i>Penn State Dairy trial</i>
<b>In beef trials</b>	Weaning weight plus 25 lbs, carcass weight plus 18 lbs and KO% +0.93	<i>University of Florida Beef</i>

Successive trials have shown clearly that feeding these organic forms of micro-minerals during the latter stages of the dry period, significantly affects the future health and performance of the unborn calf. Some of these effects are epigenetic and are heritable but do not alter DNA.

The following is a summary of impacts based on replacing traditional inorganic mineral forms with Sel-Plex® and Bioplex® elements. These element forms are used in the “**Superchoice Gold**” formulations.



**When you chose the “Superchoice Gold” range, you are not only making the best choice for your cows but also for the future health and performance of the unborn future replacements they are carrying!**







## Analysis

	Units	Pre-Calver Gold	Pre-Calver Gold & Yeast	Pre-Calver Improved	Hi-Phos Post-Calver Grass Silage
<b>Bag Size</b>		25 kg	25 kg	25 kg	25 kg
<b>Calcium</b>	%	1.65	1.65	1.2	24.0
<b>Phosphorus</b>	%	3.5	3.5	3.5	7.0
<b>Sodium</b>	%	10	9.4	13.9	7.5
<b>Magnesium</b>	%	26.0	26.0	22.0	6.0
<b>Total Selenium</b>	mg/kg	50	50	50	45
<b>Sel-Plex® Selenium</b>	mg/kg	15	15	–	–
<b>Iodine</b>	mg/kg	500	500	500	100
<b>Cobalt</b>	mg/kg	99	99	99	70
<b>Total Zinc</b>	mg/kg	4,000	4,000	4,000	4,000
<b>Bioplex® Zinc</b>	mg/kg	750	750	100	400
<b>Total Copper</b>	mg/kg	3,000	3,300	3,000	3,000
<b>Bioplex® Copper</b>	mg/kg	1,000	1,000	400	300
<b>Total Manganese</b>	mg/kg	3,000	3,000	1,000	2,000
<b>Bioplex® Manganese</b>	mg/kg	300	300	–	–
<b>Vitamin A</b>	iu/kg	600,000	600,000	600,000	400,000
<b>Vitamin D3</b>	iu/kg	170,000	170,000	170,000	100,000
<b>Vitamin E</b>	iu/kg	5,000	5,000	5,000	1,000
<b>Vitamin B12</b>	mcg/kg	–	–	–	–
<b>Sodium Bicarbonate</b>	%	–	–	–	–
<b>Yeast</b>		–	YES	–	–
<b>Feeding Rate</b>	g/day	120 g	120 g	120 g	200 g





Hi-Phos Post-Calver Gold Grass Silage	Post-Calver Maize / Beet	Post-Calver Gold Maize / Beet	Cattle General Purpose	Cattle General Purpose Gold & Yeast	(N) Sheep
25 kg	25 kg	25 kg	25 kg	25 kg	25 kg
24	24.0	24.0	23.5	25.0	18.0
7.0	6.0	6.0	3.0	3.0	2.0
7.0	7.1	6.8	12.9	10.3	16.1
6.0	6.0	6.0	0	1	4.0
45	26	26	35	35	35
7.5	-	6	-	-	-
300	50	50	250	400	500
100	56	56	65	65	100
4,000	3,480	3,100	4,000	4,000	5,000
562	400	450	-	1,600	500
3,000	2,352	2,400	2,400	2,400	-
450	300	333	-	-	-
3,000	3,024	3,000	1,000	3,000	1,000
510	-	750	-	-	-
500,000	340,000	340,000	200,000	200,000	250,000
100,000	100,000	100,000	40,000	40,000	50,000
2,000	2,000	2,000	500	2,000	1,000
-	400	740	-	588	-
-	5.0	5.0	-	-	-
-	-	-	-	YES	-
200 g	250 g	250 g	25 g /100kg LW	25 g /100kg LW	16-24 g



# Molassed Minerals and Blocks

## Analysis



	Units	S/C Pre-Calver	S/C Fertility	S/C Hi-Mag	S/C Calf Beef	S/C Sheep
<b>Bucket Size</b>		20 kg	20 kg	20 kg	20 kg	12 kg
<b>Analytical Constituents</b>						
<b>Calcium</b>	%	3.5	7.9	3.5	6.2	6.2
<b>Magnesium</b>	%	15.0	5.0	15.0	3.0	5.0
<b>Phosphorus</b>	%	–	3.0	–	2.0	2.0
<b>Sodium</b>	%	6.7	9.1	6.9	12.6	11.2
<b>Trace Elements</b>						
<b>Cobalt</b>	mg/kg	80	80	60	80	100
<b>Copper Protected (Bioplex®)</b>	mg/kg	400	400	400	–	–
<b>Total Copper</b>	mg/kg	3,500	3,000	2,400	2,400	–
<b>Iodine</b>	mg/kg	500	150	100	500	500
<b>Total Manganese</b>	mg/kg	1,000	1,000	1,000	1,000	1,000
<b>Total Selenium</b>	mg/kg	50	45	50	35	35
<b>Zinc Protected (Bioplex®)</b>	mg/kg	–	–	–	–	–
<b>Zinc Total</b>	mg/kg	4,500	4,500	4,000	3,500	5,000
<b>Vitamins</b>						
<b>Vitamin A</b>	iu/kg	200,000	200,000	–	200,000	200,000
<b>Vitamin D3</b>	iu/kg	40,000	40,000	–	40,000	40,000
<b>Vitamin E</b>	mg/kg	1,000	500	–	250	250
<b>Feeding Rate</b>	g/day	100	150 - 190	250	25g/100kg LW	25-30 Ewes 15-20 Lambs



# Molassed Minerals and Blocks

## Feeding Calendar

**Livestock Category**      **Time of Year**      **Recommended Minerals**      **Recommended Blocks**

### Dairy Cows



Dry Period	Pre-Calver	Pre-Calver
After Calving	Post-Calver	Fertility
Summer Grazing	Post-Calver	Hi-Mag
Autumn Grazing	–	Hi-Mag

### Suckler Cows



Dry Period	Pre-Calver	Pre-Calver
After Calving	–	Hi-Mag
Summer Grazing	–	Hi-Mag
Autumn Grazing	–	Hi-Mag

### Calf / Beef



Calves	–	Calf/Beef
Weanlings upwards	Cattle General Purpose	Calf/Beef
Replacements	Cattle General Purpose	Calf/Beef
In-Calf Heifers	Pre-Calver	Pre-Calver

### Sheep



Pre-Tupping	Sheep	Sheep
Pre-Lambing	Sheep	Sheep
Post-Lambing	Sheep	Sheep
Tetany Risk	–	(M) Uni Hi-Mag (cattle and sheep)

### Alternative Feed Type

### Recommended Mineral Supplementation

<b>Maize</b>		S/C Post-Calver Maize/Wholecrop/Beet
<b>Kale/Rape</b>	Dairy	S/C Hi-Phos Post-Calver
	Dry Cow	S/C Pre-Calver
	Dry Stock	S/C Cattle General Purpose
<b>Sugar/Fodder Beet</b>		S/C Post-Calver Maize/Wholecrop/Beet



# Superchoice

MINERALS

## Your Local Tirlán FarmLife Representative

### North/East

Paddy Dempsey	085 1310202
Pat Treacy	087 2527731
Charlie McGahon	087 2640887
Philip Kennedy	086 0689380
Enda Quinn	086 0446157
Geoffrey Kennedy	086 4638331
Tony Brennan	086 2614148
Ed Colgan	086 7807340

### East

John Brennan	087 0509291
Diarmuid Kinsella	087 2259617
Roy Chapman	086 0216112
Paddy Galvin	085 1537611
Gary Johnson	087 6528926
Sean Jackson	086 3868888
Caoimhe Murphy	086 0664316
Niamh Murphy	086 1916295

### South

Michael Ryan	087 9019392
Roger McGrath	087 6861840
Martin Collander	087 2647003
Paddy Brennan	086 1769864
Alex Sheehan	086 0107975
Peter Treacy	086 0661772
Paul McKeivitt	086 7741670
Patrick Kehoe	086 0841164
Padraig Nugent	086 1649007

### Mid

Martin Power	087 2640087
John Dalton	086 0221117
Eddie Daly	086 1917831
James Gannon	086 7806892
Paddy Wickham	086 1277892
Mark Moloney	086 1660842
Marita Butler	086 0850173
Ciara Ryan	086 1034283
Aaron Tynan	086 0325058
Kevin Maher	086 1021329

### West

Pat Tennyson	087 2786198
Aodhan Brennan	086 7807342
Alan Gee	087 7590440
Ross Kelly	087 9823092
John Maher	086 1635234
Eoin Regan	086 0280864
Amy Caldbeck	087 2581815



Note: Information contained in this leaflet may change from time to time to meet departmental regulations, for the most up to date product information please see the product label.

All feeding guidelines should be strictly followed.



For more information please contact, your local Tirlán FarmLife Representative, Branch or [tirlanfarmlife.com](http://tirlanfarmlife.com)

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