

## TECHNICAL UPDATE

### PIP Dry Cow Minerals

There are some crucial elements to an effective dry cow mineral and Bretts have developed a high performing dry cow mineral branded under the PIP range. The highly effective dry cow mineral contains the appropriate balance of vitamins with particular attention to Vitamin E, D3, Copper, Iodine, Selenium, Phosphorus, Biotin and the inclusion of Seaweed Minerals.

**PIP = Performance Improvement Pack**

#### Vitamin E

Placental vitamin E is crucial for calf health and is influenced by a cow's intake of vitamin E in the last 6 weeks of the pregnancy. Dry cows on a clean up job on paddocks, or on silage and straw will not get sufficient vitamin E from the forage. A cow requires 30,000 IU's of vitamin E during the dry period; that is at least 700 IU's/day over a 6 week dry period. Calf embryos need large amounts of vitamin E at this stage, so it is essential to have the correct vitamin E level in dry cow diets to allow for good heart, lung and skeletal muscle development, thus minimising the risk of heart failure at birth and stillbirths.

- Good lung development in the embryo leads to less respiratory problems and leaves new born calves better able to suckle.
- Vitamin E in the colostrum reflects the cow's vitamin status and boosts the immune system.
- In the cow, high vitamin E status leaves the cow better able to resist mammary infections thus reducing mastitis incidence and lowering SCCs.



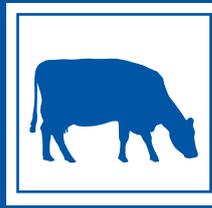
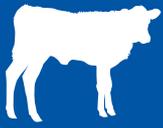
#### Vitamin D3

Vitamin D3 in the dry cow controls and to some extent regulates the absorption of calcium, the mobilisation of calcium from body reserves and transport of it in the cow. This complex function is crucial at calving time and if working properly allows for easier and quicker labour, quick expulsion of the placenta, quicker appetite recovery, less displaced abomasums and less milk fever.

An animals' store of vitamin D is sufficient for about 3 months, however winter forages are low in D3 and body reserves deplete very quickly.



- Cows with vitamin D3 deficiency use up less calcium and phosphate and this can lead to impaired bone mineralization and growth of the foetus. Underdeveloped calves can have poor immune system and be prone to infection.
- Inefficient use of calcium and phosphate can cause depressed appetite and thus lead to poor body condition score pre calving thus leaving cows prone to going down at calving.
- Vitamin D3 is essential for late dry period and early lactation cows.



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#### Selenium

Selenium, like Vitamin E acts as an antioxidant and helps boost cow and calf immunity. Calves born to cows that are fed **protected organic selenium yeast** in the form of Selplex have excellent suckling ability and have good heart, lung and skeletal muscle development thus minimizing heart failure at birth and still births.

- Organic selenium yeast helps prepare the mammary glands for next lactation and reduces the incidence of mastitis in the following lactation.

#### Phosphorus

During the dry period, the cow has a requirement for 30 grams of phosphorus per day, coming from the forage and the dry cow mineral. In recent years the level of phosphorus in grass and conserved forage has been falling so it is extremely important to feed a high phosphorus dry cow mineral (in excess of 3%).

- Phosphorus deficiency may lead to milk fever and slow calving

#### Biotin & Protected Zinc

The role of biotin in the dry period is to improve the functioning of the liver, helping to prepare the cow for her next lactation.

- Good liver function is critical in preventing the onset of ketosis, especially in cows that are calving down in good condition.
- Biotin combined with protected zinc is also used by the cow to keep the hoof structure intact, improving hoof hardness and reducing lameness.

#### Seaweed Minerals

Improve the bio-availability of the trace minerals to the cow, especially iodine. This combined with protected copper improves calf health.

#### BRETTS PIP DRY COW MINERAL SPECIFICATION

VITAMIN A iu/kg	600,000
VITAMIN D3 iu/kg	250,000
VITAMIN E iu/kg	15,000
BIOTIN mcg/kg	100,000
COBALT mg/kg	95
IODINE mg/kg	500
SELENIUM mg/kg	30
SE from Organic Selenium Yeast mg/kg	20
COPPER mg/kg	1500
COPPER Protected mg/kg	1500
ZINC mg/kg	3000
ZINC Protected mg/kg	2000
MANGANESE Tot mg/kg	2000
MAGNESIUM %	26
PHOSPHORUS %	4
SODIUM %	6.5
SEAWEED CARRIER	Yes
Recommended Feeding Level	100 grams/cow/day