

### SPECIALISED FEED LICKS FOR DAIRY

FROM CALF TO COW

# **Crystalyx For Dairy**

Crystalyx have developed a new range of products for the new-born dairy calf, replacement dairy heifer and the transition cow. Independent research by Dr Peter Ball (formally head of Dairy Fertility at SRUC) confirms that:

### "In All Measured Parameters of Reproduction the Crystalyx Fed Cows Performed Better Than the Controls"

Coupling decades of research and product innovation the Crystalyx team have produced six new products that are specifically designed to enhance health & performance of the growing heifer and transition cows thereby improving profitability. Each product complements the other and offers unique benefits during the lifecycle of the dairy cow.

The calf and heifer benefit from improved performance, health and immunity, resulting in lean, vigorous replacement heifers capable of reaching their production potential.

The cow benefits from improved overall health and immunity in late pregnancy/early lactation, allowing her to produce high quality colostrum and give birth to healthy vigorous calves. Appetite in early lactation is encouraged, enhancing lifetime milk production and reducing the calving to conception interval.



#### **Calf 100**

Promotes Early Rumen Development and Stronger Immunity in Calves

P10



#### Heifer 730

Supports Gut Health and Immunity, for Improved Lifetime Performance with a Lower Carbon Footprint

P12



### **Transition Dry Cow**

Maintains a Strong Immune System for Healthy Calving and an Easy Transition into Lactation





#### **Easy Breather**

Natural Aid for Maintaining A Healthy Respiratory System in Calves and Heifers



### **Heifer Garlyx Grazer**

For all Growing Dairy Heifers at Grass with the Power of Natural Garlic



#### **Transition 100**

Promotes Optimum Health and Enhances Fertility









# **Profitable Productive Rearing**

**FACT:** Rearing replacement heifers accounts for approximately 20% of farm production costs and is the second largest expense after the cost of feed for the milking herd (DairyCo)

**FACT:** The average cost of rearing a replacement dairy heifer in the UK is £1819 according to a DairyCo survey, with an average age at first calving of 25.8 months (784 days)

**FACT:** Reducing the age at first calving to 24 months, would save nearly £290/heifer in rearing costs (DairyCo)

**FACT:** This requires an average daily liveweight gain of 0.85kg for a Holstein heifer (Dr Michael Overton)

**FACT:** A survey by the Royal Veterinary College, suggests that approximately 22% of replacement dairy heifer calves born never make it to first calving. The goals for any heifer replacement program should be to produce high quality, healthy replacement heifers that have the genetics, frame and body condition to:

- Breed at 13-15 months of age
- Calve at 22-24 months of age
- Experience minimal metabolic issues
- · Experience minimal infectious disorders

This allows the heifer to then:

· Reach her production potential in her first lactation

- Rebreed in a timely manner
- Enhance farm profitability

To make this happen, heifers need good growth rates to produce and develop frame size and lean tissue deposition – and it is particularly efficient to do this in early life.

But the heifer also needs a strong immune system to help minimise disease challenges. Colostrum feeding is essential to give heifers a good start in life, but as the benefit of colostrum wanes, the heifer must develop a strong, functional immune system of her own as soon as possible, particularly for the key stage of transition from milk-feeding to post-weaning.

Enhancing and stimulating the development of the heifer's



#### digestive system is key

**FACT:** 70% of the body's Immune Defence resides in the gastro-intestinal tract – the gut!

**FACT:** A healthy, functional GI Tract not only offers the best possible barrier to infection, but also ensures feed digestion and absorption is maximised. Crystalyx have developed a new range of products for the dairy calf and heifer to optimise growth, immunity and health, to help ensure growth targets for 2-year heifer calving are more easily met

And don't forget the cow... Giving birth to a healthy, vigorous calf, with a good supply of high-quality colostrum and minimal metabolic issues needs good pre-calving and transition management for the cow - which starts weeks before the calf is born

**FACT:** Cows suffering from milk fever have a reduced immune response

**FACT:** Milk fever is often called a "Gateway Disease" because it increases the risk of cows contracting other metabolic diseases in early lactation, such as mastitis, metritis, retained placenta and fatty liver

**FACT:** All these avoidable metabolic issues have a negative impact on the cow's fertility

**FACT:** Energy gap - a period of negative energy balance occurs in early lactation, when a cow's appetite lags behind her nutrient requirements for milk production – so she milks off her back

**<u>FACT</u>**: Excessive mobilisation of bodyfat can result in ketosis, fatty liver and other metabolic issues – and a dramatic reduction in fertility

**FACT:** Maintaining a better dry matter intake in late pregnancy and improving dry matter intake in early lactation will reduce the negative energy balance and improve fertility, so the cow rebreeds earlier in lactation

## The Crystalyx Dairy System



# Calving Heifers Successfully and Economically at Two Years of Age

Heifer weight rather than age determines when puberty occurs, and oestrus cycling begins. The first signs of heat usually appear when heifers have reached 40% of their mature body weight and mating should ideally take place when the heifer reaches 55-60% of her mature weight. Therefore, the key to successful heifer rearing for two-year calving is to maximise weight gains - without creating over-fat animals.

Heifer growth rates should be planned and monitored throughout the rearing period to achieve the required targets, with frame size (assessed by height at the withers) being one of the most valuable measures of heifer growth.

The first essential is to ensure all calves receive sufficient high-quality colostrum, early enough (within 2 hours of birth) to maximise absorption of the vital antibodies it contains. Milk or milk replacer should then be fed to maintain calf health and performance in early life. But to maximise early rumen development, a high-quality calf starter should be made available from a few days of age.

Research has clearly shown that it is the fermentation of sugars and starch in the rumen which initiates and then optimises the development of the rumen epithelium in early life – not forage intake. And the quicker the rumen develops, the quicker dry feed intakes are stimulated, and the earlier weaning can take place without the risk of any weaning check and negative growth consequences.

Allowing young calves free access to Crystalyx Calf 100 helps initiate and speed up rumen development and early dry feed intakes. Following-on with Crystalyx Heifer 730 helps drive forage digestibility and intakes, increasing heifer growth and performance, even when fed alongside concentrates and supplementary feeds, because Crystalyx encourages the rumen bugs to work harder and more efficiently at digesting forages, producing larger-framed, but leaner, heifers.

Research undertaken at Aberystwyth university detailed the effects that Crystalyx has on heifer growth at grass.

Heifers were found to grow 15.2% faster than controls and reached bulling weight on average 40 days earlier. The research also confirmed that supplementing heifers with Crystalyx reduced the amount of methane the animal produces per kg of DLWG (18.7%), thus reducing lifetime carbon emissions and supporting ever more sustainable farming.

# **Dairy Life Cycle**

CALF STAGE FIRST 100 DAYS (RUMEN DEVELOPMENT): CALF 100 / EASY BREATHER GROWING HEIFER STAGE: HEIFER 730 / HEIFER GARLYX GRAZER LATE PREGNANCY & TRANSITION (LAST 8 WEEKS): TRANSITION DRY COW LACTATION PERIOD (1ST 100 DAYS): TRANSITION 100





## **Calf 100**

### Promotes Early Rumen Development and Stronger Immunity in Calves

The most important factor in promoting rumen development and adaptation in preparation for weaning, is the consumption of dry feed. Crystalyx Calf 100 is a feed lick specially designed to stimulate an early appetite for dry feed in young calves.

By providing selected key nutrients in the form of a palatable lick, Crystalyx Calf 100 helps initiate and then optimise development of the rumen epithelium. Dry feed intake is enhanced, resulting in stronger, more vigorous calves, better able to withstand the stress of weaning and regrouping.

The presence of a yeast cell wall product provides selected sugars (MOS and  $\beta$ -glucans) which have been shown to reduce pathogen challenge in the gut by preventing them sticking to the lining of the gut, whilst also stimulating the immune system to provide a stronger, more robust defence against further challenges.

#### Feeding Guidelines:

1x 5kg tub/8-10 calves. 1x 15kg tub/24-30 calves. **Typical intakes:** 20g-40g/calf/day.

Always place a minimum of 2 tubs per group to avoid bullying.

Available in 15kg and 5kg tubs.



- To be fed to calves for the first 100 days of life
- Palatable, even for young calves on milk
- Contains essential fatty acids to maximise growth and feed efficiency
- Promotes an early appetite and starter feed intake
- Helps optimise rumen development
- Reduces the risk of growth checks at weaning
- Studies show calves fed Calf 100 are up to 6kg heavier at 100 days than control calves reared on the same feeding and management system
- Many studies have shown/demonstrated a range of long-term positive effects from improved LWG in early life, including reduced age at conception and calving and improved first lactation milk production of 850-1100 kg (Soberon et al, 2012)

# **Easy Breather**

### Natural Aid for Maintaining a Healthy Respiratory System in Calves and Replacement Heifers

Crystalyx Easy Breather is a feed lick specially designed with the intention to help alleviate stress and respiratory problems in calves.

Respiratory problems in calves are most prevalent in autumn and winter, especially when the animals are housed. Containing menthol and eucalyptus, Crystalyx Easy Breather offers a natural aid to maintain a healthy respiratory system.

Calves, like children, are particularly prone to respiratory problems, as they have not developed any natural immunity to many infectious organisms. The severity of the problems can vary from a mild nasal discharge and coughing in a group of calves, to severe pneumonia with some deaths. Crystalyx Easy Breather contains active and proven decongestants to help reduce coughing and respiratory irritation. With a full complement of vitamins and trace elements, Crystalyx Easy Breather helps develop and maintain a strong healthy immune system. Highly palatable Crystalyx Easy Breather helps calves regain their appetite after a stress or challenge. Dry feed intake is stimulated giving stronger more vigorous livestock that are better able to withstand a challenge.

#### **Feeding Guidelines:**

1x 5kg tub/8-10 calves (under 3 mths). 2x 22.5kg tubs/20 older cattle. **Typical intakes:** 30g-40g/calf/day. 80g-100g/older calves/day.

Always place a minimum of 2 tubs per group to avoid bullying.

Available in 22.5kg and 5kg tubs.



- A natural aid to help reduce coughing and respiratory irritation
- Helps keep airways clear and reduces stress
- Helps calves regain appetite after a stress or challenge
- A powerful natural aid to help calves resist respiratory challenges
- Reduces the risk of growth checks
- Data from AFBI Hillsborough shows that heifers suffering persistent calfhood pneumonia produced almost 1200 litres less milk in their first 2 lactations – a loss in income of almost £300/heifer

"Our calves are healthier and more content since we introduced Easy Breather through the winter, whilst the smell of menthol and eucalyptus gives you great peace of mind".

John Cameron, Farm Manager, Wood Park Farm, University of Liverpool



### Supports Gut Health and Immunity, for Improved Lifetime Performance with a Lower Carbon Footprint

Sexual maturity (the onset of puberty) in heifers is related to liveweight not age. Bigger heifers reach sexual maturity sooner.

Heifers bred to calve at 2 years old have more calves in their lifetime and are more profitable than heifers calving for the first time at 3 years old – but they need to be grown and managed well. Heifers should be approx 60% of their mature weight at first mating and should gain approximately 25kg liveweight every month to achieve this.

**Frame Not Fat:** Approximately 75-80% of frame size is put on before 12 months of age (DairyCo data). The most critical time for frame growth is between weaning and puberty. Heifers should aim to be served and calve down between a body condition score (BCS) of 2.5-3.0. Fertility increases up to the 3rd oestrus cycle after the onset of puberty, therefore heifers should ideally have reached

puberty and be cycling at least 6 weeks prior to first mating (DHHPS data).

Feeding Crystalyx Heifer 730 ensures optimum growth is maintained by increasing forage intakes and digestibility, allowing heifers to reach bulling weight – and become pregnant earlier.

#### **Feeding Guidelines:**

2x 80kg tubs/50 cattle. 2x 22.5kg tubs/20 cattle. **Typical intakes:** Growing heifers: 100-150g/day.

Always place a minimum of 2 tubs per group to avoid bullying.

Available in 80kg and 22.5kg tubs.



- For dairy heifers from 100 days of age
- Helps maintain optimum growth rates and performance in replacement heifers
- Improves animal health and fertility
- Increases conception and pregnancy rates
- Provides all essential minerals, trace elements and vitamins to balance the nutrient deficiencies in grass and forages
- Research proven to improve growth rates by 15.2% and reduce methane production by 18.7% per kg of DLWG
- Pro-Active contains essential and functional fatty acids, together with β-glucans and MOS, to stimulate/optimise immunity and increase feed efficiency in growing heifers.
- Calving heifers at 24 months vs 26 months saves 15.7% in rearing costs – worth almost £290/heifer (DairyCo survey data)

# **Heifer Garlyx Grazer**

# For all Growing Dairy Heifers at Grass with the Power of Natural Garlic

Heifer Garlyx Grazer is primarily designed to maximise animal performance by stimulating forage intake and digestion, with an added concentration of garlic to protect cattle from biting insects. The natural high sulphur compounds in garlic act as an insect repellent which wards off flies and other biting insects.

Heifer Garlyx Grazer should be made available throughout the grazing season. The trickle feeding of garlic contained within Heifer Garlyx Grazer acts as a constant deterrent, warding off flies and other biting insects. Prevention is better than cure.

Stressed and or irritated cattle are less likely to graze, which has a negative effect on their performance. If the skin is made less attractive to biting insects then they are less likely to land. The concentrated natural garlic contained in Heifer Garlyx Grazer is consumed by cattle with every lick, and over the days that follow the garlic passes through the animal and is secreted out from pores in the skin, this produces an invisible barrier around the cattle which flies and other biting insects find repellent, significantly reducing the irritation and therefore the risk of infection from airborne biting insects. Heifer Garlyx Grazer also contains a full complement of vitamins, minerals and trace elements to balance the deficiencies in grass. High levels of zinc contained in Heifer Garlyx Grazer also helps to maintain skin integrity and strength to further guard against biting insects.

Feeding Guidelines:

2x 80kg tubs/50 cattle. 2x 22.5kg tubs/20 cattle. **Typical intakes:** Growing heifers: 100-150g/day. **Always place a minimum of 2 tubs per group to avoid bullying** 

Available in 80kg and 22.5kg tubs.



- Produces an invisible screen over the heifer's body to help repel airborne biting insects
- Reduces restlessness and irritation in grazing heifers
- Reduce the risk of infection from airborne biting insects
- Provides all essential minerals, trace elements and vitamins to balance the nutrient deficiencies in grass
- Loss of an affected quarter will reduce future milk production by at least 10% (NADIS data) and dramatically reduce heifer sale value
- Research proven to improve growth rates by 15.2% and reduce methane production by 18.7% per kg of DLWG



# **Crystalyx For Dairy Cows**

Fertility can be described as the successful establishment of a pregnancy. Nutrition influences fertility directly by the supply of specific nutrients required for the processes of oocyte development, ovulation, fertilisation, embryo survival and the establishment of a successful pregnancy.

Research has clearly demonstrated that maintaining dry matter intakes throughout the transition period (particularly from 3 weeks pre-calving to 3 weeks into lactation) helps reduce both the length and severity of the negative energy balance experienced by the cow in early lactation.

Independent research conducted at the University of Parma has clearly demonstrated that feeding Crystalyx throughout the late pregnancy dry period and the early weeks of the following lactation, increased total dry matter intakes by just over 1 kg of dry matter/cow/day throughout the period of the study, compared with control cows fed the same ration, but without Crystalyx being available. And as a result, the Crystalyx-fed cows produced over twice the quantity of colostrum at first milking and over twice the yield of essential antibodies (IgG), vital to give newborn calves the best possible start in life, as the control cows.

Increased dry matter intake leads to improved energy balance in early lactation. The Parma study also indicated that Crystalyx-fed cows showed improved fertility.



Control

Crystalyx

DMI Kg/day





### Dairy Fertility Study with Dr Peter Ball

A large scale trial involving over 300 cows on 5 commercial dairy farms was designed and managed by Dr Ball. The aim was to provide an objective, scientific evaluation of the effects of Crystalyx supplementation on dairy cattle reproductive performance, with an emphasis on specific parameters, such as onset of cycling, first visible heat, time to conception, conception rates and embryo/foetal loss.

These parameters are crucial to reproductive success and therefore have important economic consequences for dairy farmers. Dr Ball commented: "Reproductive performance in cattle is extremely difficult to evaluate because (a) it is influenced by a large number of genotypic and phenotypic factors, many of which interact within and between genotype and the environment, and (b) most of the variables being measured, such as conception rate and oestrus detection rate, are not continuous. Relatively large numbers of animals and carefully controlled protocols are therefore essential.

Milk progesterone measurements enable the detection of aspects of ovarian activity such as ovulation, time to first cycle, and the incidence and timing of embryo/ foetal loss, which would otherwise be impossible to evaluate on a farm scale. Also, by defining the time of ovulation, milk progesterone measurements enable the calculation of oestrus detection rates and the incidence of 'false' oestrus and mis-timed inseminations".

### Protocol

#### **Research Parameters and Objectives**

Farms were chosen from dairy farms milking Holstein-Friesian, Montbeliarde or Ayrshire cows with the basic requirement that they were able to manage cows in two physically separate groups from drying off, through calving and until they were again confirmed pregnant or assigned to be culled.

Cows in both groups were fed and managed identically, except that cows in the treatment group were given free access to the recommended Crystalyx protocol ('Transition Dry Cow' during the dry period, followed by 'Transition 100' from calving until 100 days in milk).

Many of the variables affecting reproduction are (a) directly or indirectly seasonal (e.g. weather and feed changes) and (b) vary between farms, not least because of farmers' aims. It was therefore decided that pairing of treatment and control animals within farms was a fundamental requirement. Cows were paired according to the following criteria:

- Predicted calving date (within two weeks of each other).
- Lactation number while on trial (2-4; 5 and above)
- Previous 305-day yield (up to 8,000 litres; 8001-10,000 litres; over 10,000 litres
- Previous reproductive performance (1-3 Als; 4+ Als. Problems (cystic etc))

One of each pair was assigned at random to either the treatment or control group.

Milk samples were taken thrice weekly from one week post calving until the cows were two months pregnant or allocated for culling. Milk progesterone was measured using an on-farm dipstick test and used to create a profile for each cow in order to measure:

- · Time to first ovarian activity
- Time to first cycle
- Time to conception
- Incidence and timing of embryo/foetal loss
- Incidence of abnormal cycles
- Efficiency and accuracy of oestrus detection and insemination

Additional information, including observed oestrus, insemination data, veterinary pregnancy diagnosis results and monthly condition scores, were recorded.

#### **Start of First Ovarian Cycle**

An ovarian cycle was considered normal if it ranged from 17 to 25 days in length. The start of the cycle was taken to be day of the last low progesterone level before a normal cycle. In approximately one third of cows this would be expected to coincide with the day of starting ovarian activity. The cu-sum opposite shows that, as with ovarian activity, a consistently higher proportion of treated cows started their first cycle at each stage up to 120 days after calving.

#### Proportion of Cows Initiating Their First Ovarian Cycle After Calving



### **Days To First Service**

As with the return to cyclicity a significantly higher proportion of Crystalyx-fed cows were inseminated at each stage up to 150 days post-partum

90% 80% **Percent Cows Inseminated** 70% 60% 50% 40% 30% 20% 10% 0% 20 40 60 80 100 120 0 140 160 Days

Control

Crystalyx

**Proportion of Cows Inseminated Post Calving** 

#### **Days to Conception**

The following cu-sum is based on actual calving data, and may therefore include cows which had been pregnant, lost their foetus and conceived again. A considerably higher proportion of treated than controls cows had conceived successfully by each of the stages after calving. **Days To Conception** 



### **Overall Results Summary**

"The Crystalyx-fed cows performed better than the controls in all measured parameters of reproduction"

**Trial Conclusions From Dr Peter Ball** 

- The mean calving to conception interval for Crystalyx-fed cows was significantly reduced, by an average of 21 days compared to control cows (p=0.03)
- 54% of Crystalyx-fed cows conceived to first service vs 35% of the control fed cows
- The 100 day in-calf rate was significantly greater for Crystalyx treated than control cows (62% vs 37%, p<0.005)</li>
- The 200 day not-in-calf rate was significantly reduced in Crystalyx-fed cows compared to controls (8% vs 26%, p=0.005)
- Infertility culling rate was significantly reduced in Crystalyx-fed cows compared to controls (3% vs 12%, p<0.05)</li>

MEASURED PARAMETER	CONTROL	CRYSTALYX	STATISTICAL SIGNIFICANCE		
AVERAGE DAYS TO FIRST SERVICE	80	72	P=0.017 (HIGHLY SIGNIFICANT)		
AVERAGE DAYS TO CONCEPTION	121	100	P=0.03 (HIGHLY SIGNIFICANT)		
OVERALL CONCEPTION RATE (%)	41	56	P=0.022 (HIGHLY SIGNIFICANT)		
SERVICES PER CONCEPTION	2.4	1.8			
100 DAY IN-CALF RATE (%)	37	62	P=0.005 (HIGHLY SIGNIFICANT)		
MEAN CALVING INTERVAL (DAYS)	401	380			
200 DAY NOT-IN-CALF RATE (%)	26	8	P=0.005 (HIGHLY SIGNIFICANT)		
INFERTILITY CULLING RATE	12	3	P<0.05 (HIGHLY SIGNIFICANT)		

### **Research Results in Context**

# Comparison with Commercial Key Performance Indicators (KPIs)

In the table below the results from the Crystalyx Dairy Fertility Study are compared against those reported in A Study of Herd Performance in 500 Holstein/Friesian herds for the year ending 31st August 2020 by Dr. James Hanks & Dr. Mohamad Kossaibati. The results show that fertility parameters for the Crystalyx fed cows are equal to, and in most cases better, than the top 25% of the herds in the NMR 500 herd study.

DADAMETED	NMF	8 500 HERD SUR	CONTROL	CRYSTALYX		
PARAMETER	BOTTOM 25%	MEDIAN	TOP 25%	COWS	FED COWS	
AVERAGE DAYS TO 1ST SERVICE	95	80	70	80	72	
OVERALL CONCEPTION RATE %	29%	35%	41%	41%	56%	
100 DAY IN-CALF RATE %	27%	36%	42%	37%	62%	
SERVICES PER CONCEPTION	3.5	2.9	2.4	2.4	1.8	
MEAN CALVING INTERVAL (DAYS)	417	400	388	401	380	

#### Financial Impact of Infertility (£)

According to the Kingshay Dairy Costings Annual Report 2020 the cost of an extended Calving Interval is  $\pounds4.09$ / day. Based on a difference in calving interval between the control cows and the Crystalyx fed cows of 21 days this is worth  $\pounds85.89$ /cow or  $\pounds17,178$  for a herd of 200 cows.

In addition there is a saving in semen costs for the Crystalyx fed animals. A reduction in the number of straws used is worth £18/cow or £3,600 for a herd of 200 cows based on an average cost of £30/straw.

The final saving is in a reduction in culling for infertility. Lower culling rates means less replacement heifers / cows are required and with an average cost of £1819 to rear a heifer (AHDB) this represents a significant saving or potentially increases farm income with more heifers to sell.

# **Transition Dry Cow**

### Maintains a strong immune system for healthy calving and an easy transition into lactation

Crystalyx Transition Dry Cow is designed for feeding to high performance dairy cows during the late pregnancy period, either at grass, or indoors. It corrects and balances the nutritional deficits present in a forage-based diet, providing a full complement of minerals, trace elements and vitamins at levels meeting, or exceeding, the very latest NRC recommended intakes.

Feeding Crystalyx Transition Dry Cow ensures the cow has a strong, healthy immune system at calving, to help withstand the rigours and challenges she will meet when transitioning into lactation, whilst also ensuring optimal calf health and vigour at birth.

#### Feeding Guidelines:

2x 80kg tubs/50 cows. 2x 22.5kg tubs/20 cows. **Typical intakes:** 200g/cow/day Always place a minimum of 2 tubs per group to avoid bullying.

Available in 80kg and 22.5kg tubs



- Conditions dairy cows during the dry period to maintain optimum health, so they transition more easily into lactation
- Maintains optimum blood magnesium levels to reduce the risk of milk fever and slow calvings
- Stimulates forage intakes and digestibility to maximise appetite in the run up to calving and into early lactation
- Supports and maintains a strong, healthy immune system in both the cow and calf
- Reducing clinical milk fever incidence by 2% will result in an extra £65 worth of milk production (@ 25ppl) per cow (DairyNZ data)

# **Transition 100**

### Promotes Optimum Health and Enhances Fertility

Crystalyx Transition 100 is a high energy feed lick, designed specifically to provide selected key nutrients to help stimulate appetite and dry feed intakes in freshly calved cows during the first 100 days of lactation.

Maximising appetite and dry matter intake in early lactation is the key to healthy and highly productive cows. A period of negative energy balance can occur in early lactation when a cow's appetite lags behind the increased energy and nutrient demand required for milk production. This results in the cow "milking off her back" and losing body condition. Excess mobilisation of body fat can result in ketosis and fatty liver and can lead to other severe metabolic issues in early lactation, which can compromise her health, fertility and lactation performance.

Crystalyx Transition 100 contains a source of rumen by-pass energy for the cow, together with a live yeast,

which helps prevent the build up of lactic acid and optimises appetite and dry feed intakes as she transitions and settles into lactation.

Research has clearly shown that feeding Crystalyx Transition 100 in early lactation stimulates the return to oestrus and significantly reduces the calving to conception interval.

Feeding Guidelines: 2x 80kg tubs/50 cattle. 2x 22.5kg tubs/20 cattle.

**Typical intakes:** 150-250g/cow/day

Always place a minimum of 2 tubs per group to avoid bullying.

Available in 80kg and 22.5kg tubs.



- To be fed for the first 100 days of lactation
- Optimises performance by stimulating forage intakes and digestibility in early lactation
- Reduces the risk of ketosis and acidosis due to improved energy intakes
- Helps optimise fertility and reduces the calving to conception interval by improving nutrient balance and intake
- Helps maintain better body condition in early lactation
- Reducing calving to conception interval by 21 days @ £4.09/day is worth over £85/cow (Kingshay Dairy Costings Annual Report 2020)



### What to Feed and When





	<b>WINTER</b> JAN/FEB/MAR	<b>SPRING</b> APR/MAY/JUN	SUMMER JUL/AUG/SEP	AUTUMN OCT/NOV/DEC	
LATE PREGNANCY (LAST 2 MONTHS)	TRANSITION DRY COW	TRANSITION DRY COW	TRANSITION DRY COW	TRANSITION DRY COW	
LACTATING DAIRY COWS (FIRST 100 DAYS)	TRANSITION 100	TRANSITION 100	TRANSITION 100	TRANSITION 100	

# **Specifications**

PRODUCT SPECIFICATION	CALF 100	EASY BREATHER	HEIFER 730	HEIFER GARLYX GRAZER	TRANSITION DRY COW	TRANSITION 100
SUGAR	40	40	40	37.0	35.0	35.0
OIL %	4.0	6.0	4.0	6.0	2.0	6.0
PROTEIN %	6.0	6.5	12.0	12.0	3.0	3.0
P.EQUIV. UREA %	-	-	8.7	8.7	-	-
FIBRE %	-	0.25	0.25	0.25	0.25	0.25
ASH %	22	22.5	28.0	29.0	37.0	28.0
MINERALS						
CALCIUM %	3.0	2.0	4.0	4.0	-	4.0
PHOSPHOROUS %	1.5	1.5	2.0	2.0	1.0	2.0
MAGNESIUM %	0.4	0.4	1.0	1.0	8.0	1.0
SODIUM %	2.0	2.3	2.0	2.0	4.0	2.0
TRACE ELEMENTS						
COPPER mg/kg	-	-	600	600	750	600
MANGANESE mg/kg	800	800	1200	1200	2000	800
ZINC mg/kg	1200	1200	1600	1600	2500	1200
IODINE mg/kg	20	6	60	60	100	60
COBALT mg/kg	5	-	10	10	15	12
SELENIUM mg/kg	5	5	10	10	15	9
VITAMINS						
VITAMIN A iu/kg	75,000	25,000	75,000	75,000	450,000	75,000
VITAMIN D3 iu/kg	15,000	4,000	15,000	15,000	90,000	15,000
VITAMIN E mg/kg	1000	3,000	250	250	5000	150
VITAMIN C mg/kg	1000	3,000	-	-	-	-
VITAMIN B12 mcg/kg	2000	220	-	-	-	-
B-GLUCANS AND MOS	$\checkmark$	$\checkmark$	$\checkmark$	-	-	-
PROACTIVE	-	-	$\checkmark$	-	-	-

# **Intake Requirement Calculator**

(Number of tubs required to last approximately 1 month)

NUMBER OF CALVES	TUB SIZE	10g	20g	30g	40g	50g	60g
40	5Kg	1 TUB	2 TUBS	2 TUBS	3 TUBS	3 TUBS	4 TUBS
10	15Kg	1 TUB	1 TUB	1 TUB	1 TUB	1 TUB	2 TUBS
	5Kg	2 TUBS	3 TUBS	4 TUBS	5 TUBS	6 TUBS	8 TUBS
20	15Kg	1 TUB	1 TUB	2 TUBS	2 TUBS	2 TUBS	3 TUBS
50	5Kg	3 TUBS	6 TUBS	9 TUBS	12 TUBS	15 TUBS	18 TUBS
	15Kg	1 TUB	2 TUBS	3 TUBS	4 TUBS	5 TUBS	6 TUBS
100	5Kg	6 TUBS	12 TUBS	18 TUBS	24 TUBS	30 TUBS	36 TUBS
	15Kg	2 TUBS	4 TUBS	6 TUBS	8 TUBS	10 TUBS	12 TUBS

#### Intakes (grams per animal per day)

#### Intakes (grams per animal per day)

NUMBER OF ANIMALS	TUB SIZE	100g	150g	200g	250g	300g	350g
20	22.5Kg	3 TUBS	5 TUBS	6 TUBS	7 TUBS	9 TUBS	10 TUBS
20	80Kg	1 TUB	2 TUBS	2 TUBS	2 TUBS	3 TUBS	3 TUBS
	22.5Kg	7 TUBS	11 TUBS	14 TUBS	18 TUBS	21 TUBS	25 TUBS
50	80Kg	2 TUBS	3 TUBS	4 TUBS	5 TUBS	6 TUBS	7 TUBS
100	22.5Kg	14 TUBS	21 TUBS	28 TUBS	35 TUBS	42 TUBS	49 TUBS
100	80Kg	4 TUBS	6 TUBS	8 TUBS	10 TUBS	12 TUBS	14 TUBS
200	22.5Kg	28 TUBS	42 TUBS	56 TUBS	69 TUBS	84 TUBS	97 TUBS
	80Kg	8 TUBS	12 TUBS	16 TUBS	20 TUBS	24 TUBS	28 TUBS



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