



Animal Feed ingredients and performance products.

Supplying wholesale feed manufacturers and merchants backed by technical support



SOLUTIONS BACKED BY SCIENCE

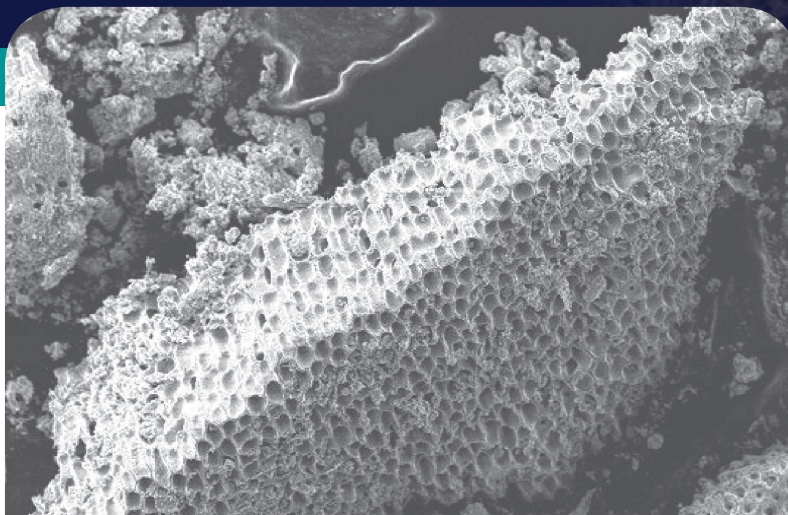
www.pronutri.ie

acidbuf

Driving Efficiency, Delivering Profitability

Acid Buf is an efficient and effective rumen buffer derived from marine algae and is 100% natural. Stabilising rumen pH levels for a longer time period, its unique honeycomb structure breaks down slowly in the rumen and provides twice the buffering capacity of traditional buffers. Acid Buf is sustainably harvested from the north Icelandic coast and its unique marine minerals aid a healthy rumen function. This provides added benefits to the animal when compared with other marine algae sources.

- ✓ Improves feed utilisation and efficiency
- ✓ Increases milk yield and components
- ✓ Stabilises rumen pH and optimises rumen conditions
- ✓ Source of highly bio-available Calcium and Magnesium
- ✓ Proven through peer reviewed published research
- ✓ Cost effective and saves space in the diet
- ✓ Carbon Trust and Organic certification



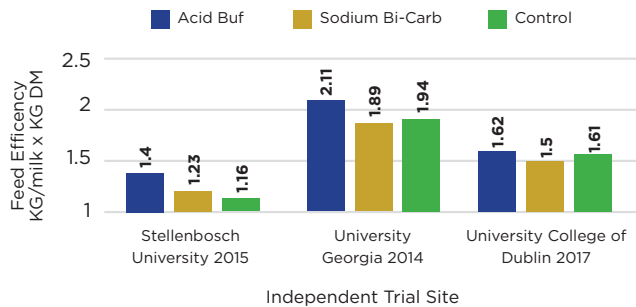
A healthier rumen environment which should lead to an improvement in milk production and feed efficiency

3 Trials
3 Continents
3 Diets

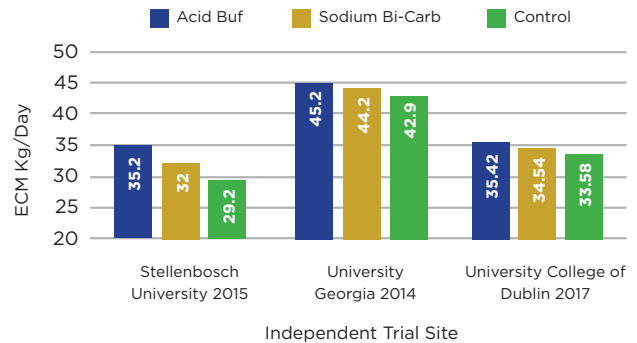
One consistent result

Driving Efficiency, Delivering Profitability

Feed Efficiency: Acid Buf compared with Sodium Bi-Carb



Energy Corrected Milk: Acid Buf compared with Sodium Bi-Carb



Why do we need to include a rumen buffer such as Acid Buf?

Modern dairy cows are now eating more than 4% of their bodyweight. The increasing use of highly fermentable starch alongside highly digestible grass, can lead to an increase in acid concentrations in the rumen. This will lead to rumen pH dropping below 5.8 for extended periods of time and the rumen is experiencing sub-acute ruminal acidosis (SARA). This will impact the cow's ability to extract nutrients from feedstuffs and can lead to reduced productivity and performance.

On-farm symptoms of SARA

- ✓ Weight loss/poor body condition
- ✓ Variable feed intake
- ✓ Reduced rumination (cud-chewing)
- ✓ Cud balls
- ✓ Mild diarrhoea and/or appearance of undigested grain in faeces
- ✓ Foamy faeces containing gas bubbles
- ✓ Low milk fat syndrome
- ✓ Laminitis

The importance of calcium and magnesium

Calcium and Magnesium are important for nerve, muscle function, immune system and bone health. Different sources will vary in their ability to solubilise in the rumen and be made available to the cow. Acid Buf supplies a very bio-available source of both calcium and magnesium.

| Constituent | Content | Bio-availability | Per 80g feed rate |
|-------------|----------|------------------|-------------------|
| Magnesium | 5.5% min | 99% | 4.4g |
| Calcium | 30% | 100% | 24g |

Using Acid Buf can provide in excess of a **6:1 return on investment**. Published papers and comparison work have shown Acid Buf to be the most cost-effective buffer on the market and it provides added benefits.

- ✓ Additional space in the diet
- ✓ Bio-available source of calcium and magnesium
- ✓ Extra buffering capacity

Application

- ✓ Farmpack
- ✓ Blend
- ✓ Compound
- ✓ Mineral

Recommended inclusion rates: Dairy Cows: 80gm/head/day. The more acidic the diet the higher the inclusion.

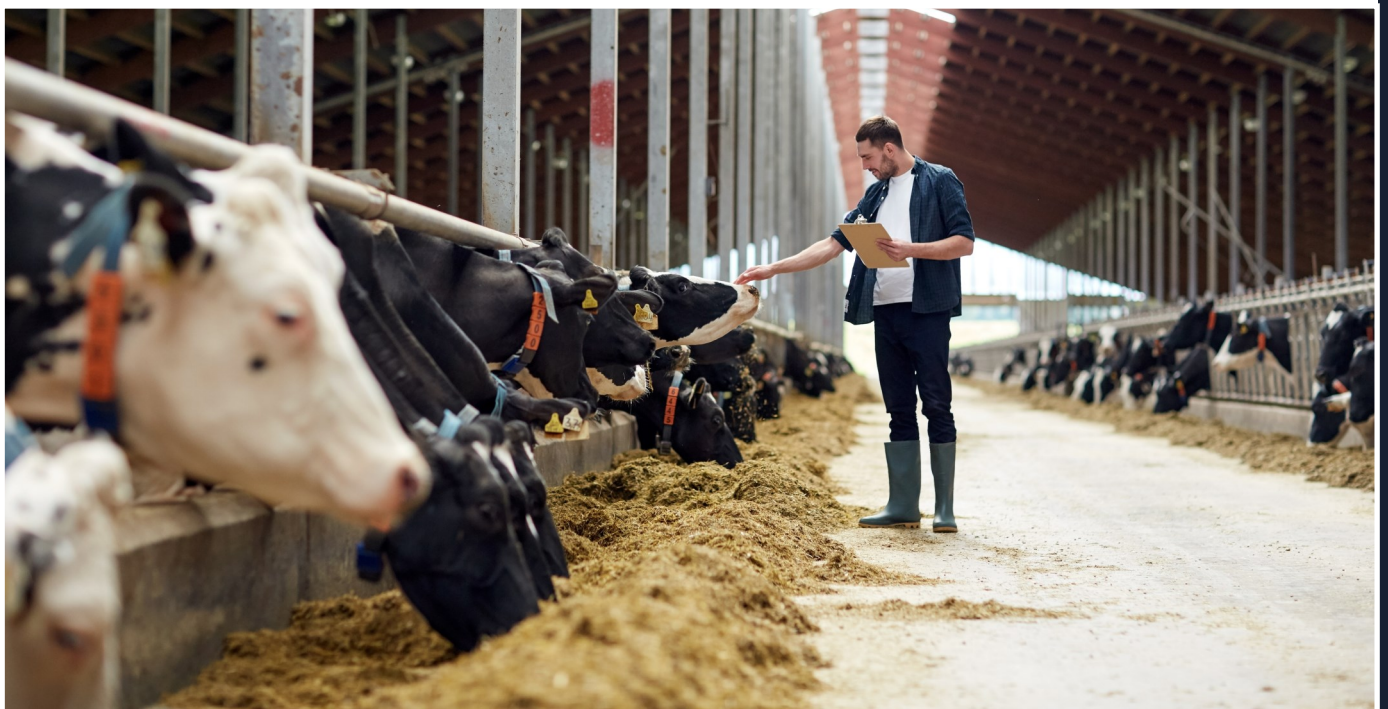


Helping fight the mycotoxin threat in ruminants and other Species.

The contamination of straights and forages with mycotoxins can seriously affect dairy herd health and performance during winter. Despite growing evidence regarding the scale of the problem the threat is often overlooked.

UltraSorb R is a combination of specially selected biologically active ingredients that binds, transforms and degrades mycotoxins found in the rumen. It can remove highly damaging toxins that are common in UK conditions, such as deoxynivalenol (DON).

- Higher feed intakes
- Improved fertility
- Supports natural defences against mycotoxins
- Increased milk production and growth rates
- The only ruminant-specific mycotoxin solution





Vistacell delivers the highest concentration of yeast cells per gram.

Dried in granular form, Vistacell has an outer shell that protects the inner core of live yeast cells. This process improves stability, making Vistacell one of the most active live yeast products commercially available.

Vistacell in ruminant nutrition

- Adding Vistacell to the ration can help increase rumen pH
- This reduces the number of lactic-acid producing microbes, whilst increasing the number and activity of fibre-digesting microbes.
- Improved fibre digestion and dry matter intake result in greater productivity.
- Vistacell is available for ruminant and swine diets.

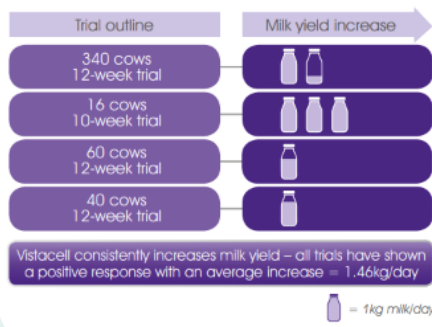
Micro yeast – delivering 60 billion CFU/head/day

Vistacell has the highest CFU/head/day compared to other live yeast products.

A higher CFU/head/day is associated with:

- Greater fibre digestion and VFA production
- Reduction in lactic acid production
- Improved animal performance

Vistacell dairy trial performance summary



To find out how advancements in yeast technology can give your feed the Vistacell advantage, contact John Friel, ProNutri 086 604 5918.



Working with global
leaders to supply
innovative animal
feed ingredients
and performance
improving feed
additives for
efficient animal
production.

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NitroShure™

Precision Release Nitrogen

NitroShure Precision Release Nitrogen encapsulated urea supplement for lactating cows designed to create a slow release nitrogen source for the rumen.

NitroShure Precision Release maximises rumen microflora to increase rumen efficiency and productivity.

ReaShure®-XC

Precision Release Choline

ReaShure—Precision Release XC an encapsulated choline product designed to supply the transition cow with the choline required for growth and for the liver to process and metabolise fat.

ReaShure Precision Release Choline is the fuel that will help cows reach their full potential. Choline is a required nutrient for all mammals, but EVERY dairy cow is deficient in choline during the transition period.

Average increase of 2.1kg/day of milk across the full lactation is proven with ReaShure XC, the most researched rumen protected choline on the market.

AminoShure™-XM

Precision Release Methionine

AminoShure-XM Precision Release Methionine delivers the next generation in precision amino acid balancing technology.

AminoShure-XM helps to maximise productivity and deliver more methionine to cows. Improves milk protein production and reduces dietary crude protein.



What is VistaPre-T?

VistaPre-T is a revolutionary crude fermentation extract derived from *Trichoderma reesei*. It directly impacts fibre utilisation through a unique mode of action and is the first product of its kind to enter the ruminant market.

What does VistaPre-T do?

- Once applied, VistaPre-T works immediately, causing a “pitting” effect on the surface of fibrous material, roughening and increasing the surface area by which fibre-degrading rumen microbes can attach.
- These physical changes enable faster and improved colonisation in the rumen, having a positive impact on fibre digestion and utilisation. Whilst the direct activity of VistaPre-T is cellulolytic, it positively impacts digestion of other nutrients by removing cellulase-based barriers that otherwise protect these feed components from degradation.
- This results in a reduction in the digestion lag time allowing for greater feed use and energy release from fibre within both forages and concentrates

How is VistaPre-T applied?

- VistaPre-T is available in two forms; a liquid which can be applied directly into the TMR or a dry powder which can be included as a farm pack, mineral pack or within the blend

Furthermore, VistaPre-T has a low inclusion rate when compared to other added value products. This is because it increases the energy content without taking up valuable diet space.

Feed rates:

Vista Pre-T Dry Farmpack = 50g/head/day

Vista Pre-T Liquid = 15ml/head/day



Animal Feed Ingredients

ProNutri has a unique range of high energy, sustainable bulk animal feeds, rich in protein and fibre for the Irish feed industry.

Prices are available on application.

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NovaPro is a high energy, hot pressed rumen protected rapeseed expeller supplying similar quantity of rumen bypass protein as hi-pro soya with a significantly higher energy content (~10%) than rape seed meal due to higher retained rumen friendly oil.

The by-pass protein is of higher digestibility than that within other rumen protected rape seed meal based products as it is not subjected to hexane solvent extraction that reduces digestibility.

Typical Analysis (on a dry matter basis)

| Dry matter (%) | Energy (MJ ME/kg DM) | Crude protein (%) | Oil (%) | NDF (%) | Starch (%) | Sugar (%) | DUP (%) |
|----------------|----------------------|-------------------|---------|-------------------|------------|-----------|---------|
| 89.0 | 12.9 | 34.8 | 10.5 | 35.0 [#] | 6.9 | 7.9 | 19.0 |

What are you trying to achieve?

| Need | Feature | Benefit |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drive intakes | An excellent source of high quality rumen bypass protein, of superior and matched amino acid profile to milk protein, soya, in a palatable form. | Ruminants will increase intake to provide energy to match the superior supply of amino acids in NovaPro (the building blocks of protein) compared to soya. |
| Reduce feed costs | | Allows performance to be maintained while reducing the overall protein content saving feed costs. |
| Increase milk yield | | Allows the cow to maximise milk production by meeting its demand for DUP and improve protein efficiency. |
| Reduce reliance on soya bean meal | Very similar DUP content as hi-pro soya meal | Allows a dairy and growing rations to reduce or remove hi-pro soya saving feed costs |
| Flexibility in feeding | Dry and free-flowing meal | Simplifies feeding and storage |

Availability, handling and storage

NovaPro should be stored out of direct sunlight, in a cool, dry and well-ventilated environment and should be used within three months of delivery.

Method of production

NovaPro is produced at a new state of the art rapeseed expelling facility, where whole rape seeds are heated and pressed to expel the oil, after which the residual cake is treated using a unique and safe patented process which increases the level of rumen bypass protein. During production of NovaPro, careful process control procedures ensure that the proteins become highly rumen undegradable but retain, post rumen, high intestinal digestibility, similar to untreated soya bean meal.

Maxibeet is a high digestible fibre based, palatable energy feed.
Dried (sugar) beet feed (unmolassed)

Typical Analysis (on a dry matter basis)

| Dry matter (%) | Energy (MJ ME/kg DM) | Crude protein (%) | Oil (%) | NDF (%) | Starch (%) | Sugar (%) | DUP (%) |
|----------------|----------------------|-------------------|---------|---------|------------|-----------|---------|
| 89.0 | 12.5 | 9.5 | 1.0 | 43.0 | 0.0 | 7.0 | 3.3 |

What are you trying to achieve?

| Need | Feature | Benefit |
|---------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Drive intake | A highly palatable feed. | Can stimulate intakes of less palatable feeds, increasing milk and meat production |
| Increase milk fat % | A good source of digestible fibre. | Provides the building blocks for milk fat synthesis, increasing value per litre. |
| Increase energy intakes | Good levels of non-starch digestible fibre energy. | Allows energy intakes to be increased without increasing the risk of acidosis associated with cereal feeding. |
| Minimise risk of acidosis | High content of digestible fibre. | Assists in maintaining an optimum rumen pH. |
| Feeding flexibility | Pellet durability | Suitable for use 'in parlour' automated and floor feeding systems. Can be transferred to feeders via auger systems. |

Availability, handling and storage

Maxibeet is usually available all year round, as bulk tipped or blown loads. Like all dry feeds, they should be stored in a secure shed, bunker, bin or hopper and kept cool, dry and free from vermin.

Method of production

Maxibeet is a co-product from sugar production. Once the sugar has been diffused out from the beet, the fibrous residues are dried and then pelleted to produce the final product.

A very palatable, high energy and protein feed, rich in digestible fibre, low in starch and providing a good source of bypass protein.

Typical Analysis (on a dry matter basis)

| Dry matter (%) | Energy (MJ ME/kg DM) | Crude protein (%) | Oil (%) | NDF (%) | Starch (%) | Sugar (%) | DUP (%) |
|----------------|----------------------|-------------------|---------|---------|------------|-----------|---------|
| 90.0 | 13.8 | 27.5 | 11 | 36.0 | 2.2 | 6.7 | 9.5 |

What are you trying to achieve?

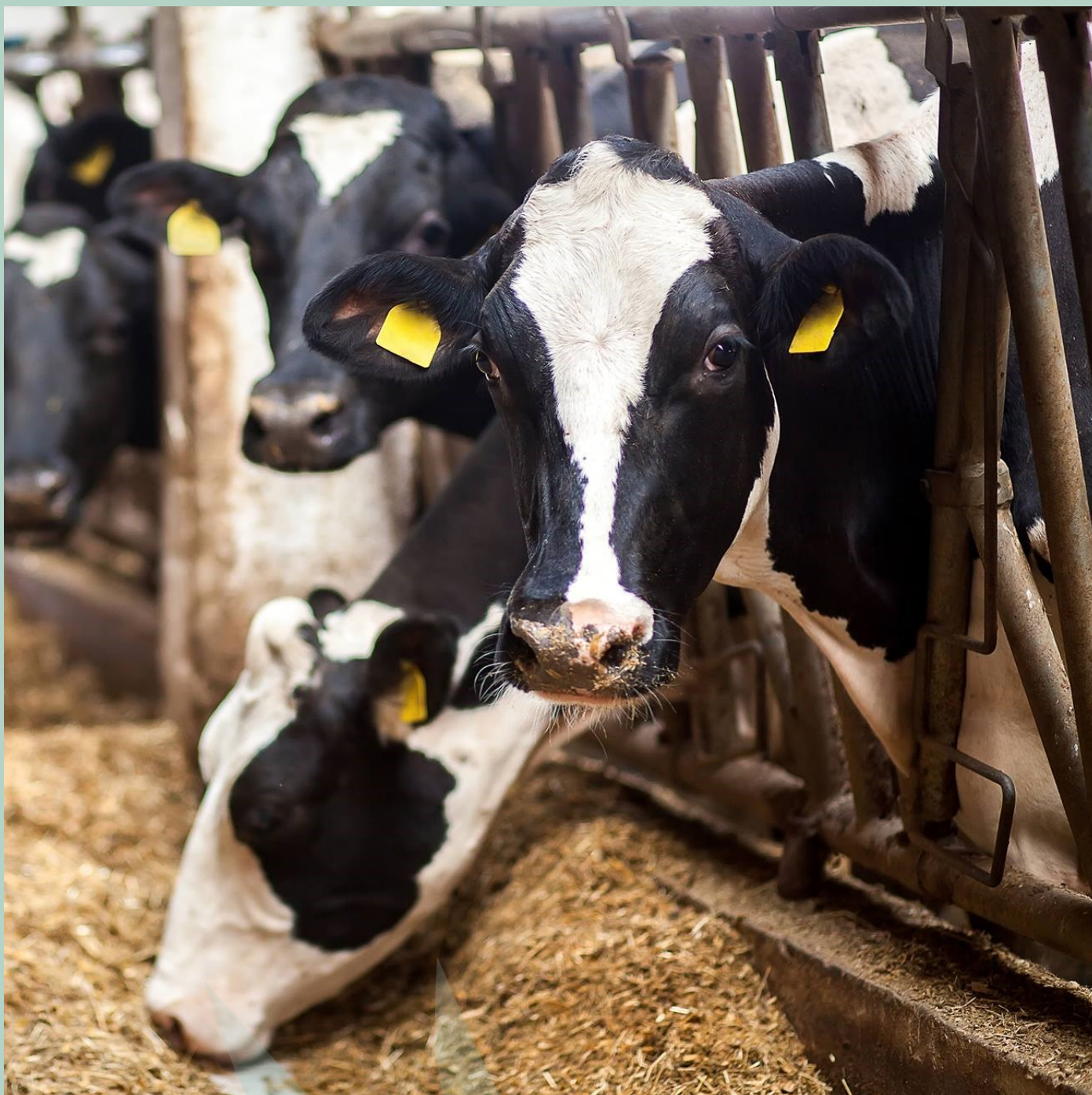
| Need | Feature | Benefit |
|---------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Drive intake | Highly palatable feed. | Can stimulate intakes of less palatable feeds, increasing milk and meat production. |
| Reduce feed costs | High quality protein and a good source of bypass protein. | Allows ratios of soya and low protein concentrates to be replaced whilst providing similar energy and protein levels (usually at lower cost). |
| Improve rumen efficiency | Distillery products contain high levels of yeast fragments particularly in the solubles fraction. | Stimulates rumen activity, promoting fibre digestion and overall feed efficiency. |
| Minimise risk of acidosis | High proportion of the energy as digestible fibre. | Allows energy intakes to be increased without increasing the risk of acidosis associated with high starch feeds. |

Availability, handling and storage

Vivergo Distillers is available as bulk tipped or blown loads. Like all dry feeds, they should be stored in a secure shed, bunker, bin or hopper and kept cool, dry and free from vermin.

Method of production

Vivergo Distillers Meal is a product of the bio-ethanol industry. Following the fermentation of wheat and maize (feedstocks vary from 100% wheat to 100% maize and any combination between) to produce ethanol, the distillers meal is produced from the dried solid residues of the fermented grains mixed with the evaporated distillery syrups (solubles).



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Working with global leaders

Supplying innovative animal performance products and feed ingredients

For efficient animal production.

ProNutri is a Wholesale Feed and Animal Nutrition division of one of Ireland's leading agricultural groups, the Arvum Group.

ProNutri supplies feed manufacturers and the merchant trade with quality animal feed ingredients and nutritional solutions backed by technical support.

ProNutri's extensive expertise, knowledge, and global partnerships enable us to bring our customers the latest in nutritional advancements.

The Arvum Group is a group of Irish agribusinesses with interests in seed, animal nutrition and was founded in 1859.

See www.arvumgroup.ie for further details.

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At a time when the role of sustainability sits at the core of Irish agriculture, combining our strategic partnerships with our technical expertise has never been so important.