OSTREA®
The Naturally Active Rumen Buffer

Ostrea® Seashell and Oyster Shell Flours are a source of chalk derived from natural shell banks in the North Sea. The shells are washed, dried and heated and then ground into a powder. Ostrea® is not just a rich source of calcium carbonate, but also contains a wealth of other minerals. Ostrea® is held in high regard by dairy farmers in Holland, Belgium, and France who have used the product as a rumen buffer for many years.

- Sustained buffering capacity stabilises rumen pH in the optimum range between 6 & 7
- Reduced risk of rumen acidosis, leading to improved performance & feed efficiency
- Improved general health of beef cattle
- Healthier hooves and reduced lameness
- Improved Calcium : Phosphorous balance in feeding stuffs
- Natural source of essential minerals & trace elements
- Rich in Calcium
- Good absorption

Why is there a need to feed rumen buffers?
Typically 80% of the cow’s energy needs and 70% of her protein requirements are supplied by the rumen microbes from the feed that she consumes. This complex eco-system transforms the energy sources in the feed into organic acids, predominantly acetic, propionic and butyric acids. The acids are absorbed through the rumen wall to be metabolised in the liver to meet the cows energy needs.

The rumen micro-organisms function most efficiently at a pH between 6 and 7. The cow has evolved an elegant mechanism to buffer the acids they produce. The cow is capable of producing up to 2.5 kg of sodium bicarbonate per day in the saliva, produced during cudding. How much she actually produces will vary depending on the fibrous nature of her diet and how long she spends resting, ideally half of her day.

To meet the huge energy requirements of the modern dairy cow, especially in the early weeks of lactation, diets require high levels of starches and sugars. The populations of microbes that digest these soluble carbohydrates can multiply very quickly and produce large amounts of lactic acid.

Other microbes that utilise the lactic acid are unable to respond quickly enough to metabolise these high levels, leading to the rumen buffering mechanisms being overwhelmed and the rumen pH falling below 6. This depresses the function of the microbes needed to digest the forage component in the diet.

Once the rumen pH falls below 6, Sub Acute Ruminal Acidosis (SARA) can trigger serious consequences for milk production and animal health.

Good diet formulation can go a long way to reducing the risk of SARA depressing herd performance and animal health. However many other factors can influence rumen function including forage quality, diet processing, feed allocation and feeding facilities. For just a few pence per day, Ostrea® can balance the rumen.
How Ostrea® works as a rumen buffer

Ostrea is rich in calcium carbonate. One molecule of calcium carbonate is capable of binding with two molecules of volatile fatty acid, twice the capacity of sodium bicarbonate. Because the molecular weight of calcium carbonate is higher than that of sodium bicarbonate, in practice this means Ostrea® is able to buffer 150% more acid than the same weight of sodium bicarbonate.

Ostrea® flour also has unique physical characteristics which make it an ideal rumen buffer. It has a large surface area and complex honeycomb structure and combines high availability in the rumen with a sustained action.

Other rumen buffers can cause a rapid rise in rumen pH taking the pH above the 6-7 range in which the microbes work most effectively. Ostrea® has a natural ability to minimise wide fluctuations in rumen pH but cannot over-buffer the rumen, making it very safe to use across the whole herd at all stages of lactation, whilst also contributing to the cows’ calcium and trace element requiremen

Ostrea Oyster Shell Flour Feeding Rates:

<table>
<thead>
<tr>
<th>Lactating Cows (Housed)</th>
<th>100gms / head / day</th>
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<tbody>
<tr>
<td>Lactating Cows (Grazing)</td>
<td>80gms / head / day</td>
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<tr>
<td>Calves &amp; Young Stock</td>
<td>50gms / head / day</td>
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<tr>
<td>Beef Cattle</td>
<td>50gms / head / day</td>
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</tbody>
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Oyster Flour Analysis:

<table>
<thead>
<tr>
<th>Ash</th>
<th>Calcium Carbonate</th>
<th>Calcium</th>
<th>Phosphourous</th>
<th>Magnesium</th>
<th>Potassium</th>
<th>Sodium</th>
<th>Chloride</th>
<th>Sulphur</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>%</td>
<td>%</td>
<td>mg/kg</td>
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<td>99.44</td>
<td>97.64</td>
<td>39</td>
<td>10</td>
<td>3,900</td>
<td>240</td>
<td>4,600</td>
<td>2,000</td>
<td>288</td>
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Ostrea® Seashell and Oyster Shell Flours are complementary feeding supplements, intended to improve cattle rations as an aid in the reduction of the risk of acidosis. They have a pearly off-white colour and have been ground to a fine powder.

Available in 1000 kg tote bags & 25 kg

Signs of Sub Acute Ruminal Acidosis (SARA)

SARA is a common metabolic disorder which can have a significant impact on feed conversion efficiency, and animal health in beef cattle. Diagnosing SARA in the field can be a challenge. The following signs can be useful, but can vary and be caused by other factors:

- Lower than expected dry matter intakes
- Poor rumen fill
- Loose dung
- Variable dung consistency across the herd
- Tail swishing and dirty backs
- Less than 80% of cows lying in the cubicles cudding
- Dropped cuds
- Cows experiencing laminitis and foot problems
- Haemorrhages in soles or horizontal ridges in walls of claws

What our customers say about Ostrea:

“Since we started using Ostrea at 50 grams per head per day to all beef cattle, we have noticed we have fewer problems with the young bulls’ feet. The cattle are thriving and putting on approximately 1.35 kgs daily live weight from birth to slaughter - letting us get them away at around 13 months”

Wuffy McIntyre, AQF Partnership, Almagill Farm, Dalton, Lockerbie

“We feed our beef cattle vegetable waste, bread, biscuit meal, wheat, home grown barley, maize silage and top quality grass silage. With such a varied diet, we have found that by adding Ostrea Oyster Shell Flour to the ration it keeps their rumen stable, has helped to make the cattle more lively, and has kept their feet in very good condition.”

Sam Carlisle, Nether Dargavel, Dumfries.