A guide to ruminant feeds and fatty acid supplementation
Balanced fatty acids for optimum efficiency

Ruminants have particular requirements for specific fatty acids at different stages of the production cycle. Getting the balance right will improve production and fertility whilst maintaining body condition and boosting the immune system for healthy, more profitable dairy cows and faster growing, more productive beef cattle.

Fat supplements should be considered in terms of what they do for the animal, not just the energy they provide. For example, some fatty acids can improve reproductive performance and boost the immune system, others support improved milk yields and growth. Choosing the correct one is important, as it will ensure production is optimised.

Our range of carefully balanced supplements is designed to provide a perfect balance across all types of feeding systems and at all stages of production.

Our dedicated team will help you choose the right supplement for your animals and system to ensure efficient, healthy and profitable livestock.

T: 07717 442888 | E: andrew@davidbardgett.co.uk | www.davidbardgett.co.uk
Dynalac
Optimising herd health and productivity

A proven fat supplement for high yielding herds, increasing dietary energy density to reduce body condition loss and improve overall production, health and fertility.

- A palm oil free, rumen-inert, highly digestible energy source.
- Contains C18:1 (oleic acid) helping improve fat digestibility and maintain body condition, crucial in early lactation.
- Contains long chain omega 3 fatty acids (EPA and DHA) from marine sources for improved immune status, superior egg quality and reduced early embryonic loss.
- Typical feeding rate: 300-750g/h/d

<table>
<thead>
<tr>
<th>Typical analysis</th>
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</thead>
<tbody>
<tr>
<td>Dry matter (%)</td>
<td>94.0</td>
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<tr>
<td>Oil (%)</td>
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<tr>
<td>Protein (%)</td>
<td>3.4</td>
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<tr>
<td>Fibre (%)</td>
<td>20.0</td>
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<tr>
<td>Ash (%)</td>
<td>3.4</td>
</tr>
<tr>
<td>ME (MJ/kgDM)</td>
<td>27.0</td>
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</table>

<table>
<thead>
<tr>
<th>Typical fatty acid profile</th>
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</thead>
<tbody>
<tr>
<td>C14:0 Myristic</td>
<td>0.7%</td>
</tr>
<tr>
<td>C16:0 Palmitic</td>
<td>11.7%</td>
</tr>
<tr>
<td>C18:0 Stearic</td>
<td>11.9%</td>
</tr>
<tr>
<td>C18:1 Oleic</td>
<td>28.9%</td>
</tr>
<tr>
<td>C18:2 Linoleic</td>
<td>17.7%</td>
</tr>
<tr>
<td>C18:3 Linolenic</td>
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</tr>
<tr>
<td>C20:5 EPA</td>
<td>1.8%</td>
</tr>
<tr>
<td>C20:6 DHA</td>
<td>2.5%</td>
</tr>
<tr>
<td>$\Omega_6: \Omega_3$ ratio</td>
<td>2.5:1</td>
</tr>
</tbody>
</table>
Supacream
Balanced fat supplementation for improved herd performance

Suitable to all stages of lactation, it is the ideal supplement to boost energy when cows are managed as a single milking group. It is the balanced replacement for calcium soaps and hydrogenated fats.

- Formulated to optimise diet digestibility to increase total energy supply
- Contains C16:0 (palmitic acid) to improve butterfat production, C18:1 (oleic acid) to aid body condition score and long chain omega 3 fatty acids (EPA and DHA) from marine sources to improve health and fertility
- Inclusion of glycerine improves fatty acid digestibility and provides additional glucogenic energy, reducing body condition loss and the incidence of sub-clinical ketosis
- Typical feeding rate: 300-750g/h/d

**Typical analysis**

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<table>
<thead>
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<tbody>
<tr>
<td>Dry matter (%)</td>
<td>95.0</td>
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<tr>
<td>Oil (%)</td>
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<tr>
<td>Protein (%)</td>
<td>1.3</td>
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<td>Fibre (%)</td>
<td>15.3</td>
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<tr>
<td>Ash (%)</td>
<td>6.9</td>
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<tr>
<td>Rumen inert sugar (%)</td>
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<tr>
<td>ME (MJ/kgDM)</td>
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Omega Cream
Improving milk quality and income

This high C16:0 fatty acid supplement is ideal for herds on milk composition based contracts.

- High inclusion of C16:0 (palmitic acid) to support butterfat production in high yielding and late lactation cows
- Inclusion of C18:1 (oleic acid) and glycerine helps improve fatty acid digestibility, maintaining body condition
- Contains omega 3 fatty acids (EPA and DHA) from marine sources for improved immune status and pregnancy maintenance
- Typical feeding rate: 300-750g/h/d

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<tbody>
<tr>
<td>Dry matter (%)</td>
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</tr>
<tr>
<td>Protein (%)</td>
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<tr>
<td>Fibre (%)</td>
<td>10.0</td>
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<tr>
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Omega 3 Supplement
Enhances Immunity and fertility

The fatty acid supplement for transition cows, boosting the immune system, helping ease them into lactation while ensuring improved fertility. It can also help balance diets containing straight calcium soaps at all stages of lactation.

- Provides long chain omega 3 fatty acids (EPA and DHA) from marine sources for improved herd health, fertility and milk production
- Increases egg size and quality reducing early embryonic losses, improving reproductive performance
- Long chain omega 3 fatty acids (EPA and DHA) help boost the immune system, thus sparing energy for milk production
- Ideal for embryo transfer programmes for both donors and recipients
- Typical feeding rate: 75-150g/h/d

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<table>
<thead>
<tr>
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<tbody>
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<td>Dry matter (%)</td>
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<tr>
<td>Oil (%)</td>
<td>50.0</td>
</tr>
<tr>
<td>Protein (%)</td>
<td>1.1</td>
</tr>
<tr>
<td>Fibre (%)</td>
<td>23.5</td>
</tr>
<tr>
<td>Ash (%)</td>
<td>11.7</td>
</tr>
<tr>
<td>ME (MJ/kg DM)</td>
<td>25.5</td>
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</tr>
<tr>
<td>C22:6 DHA</td>
<td>16.7%</td>
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</table>

Ω6:Ω3 ratio: 0.2:1
Utopia

Driving performance in transition and high yielding cows

A balanced supplement for transition and early lactation cows. It improves the immune system, liver function and dry matter intakes, helping cows settle into lactation.

- Highly digestible energy source predominately from C18:1 (oleic acid), to reduce the time cows spend in negative energy status. Inclusion of glycerine provides additional glucogenic energy, reducing the risk of sub-clinical ketosis
- Specific rumen buffers optimise rumen function to maximise DMI. Liver function is enhanced by the inclusion of rumen-inert choline chloride
- Includes methionine, the first limiting amino acid, to increase milk production and efficiency of protein use
- Supply's vitamin E and organic selenium to counteract oxidative stress
- Typical feeding rate: 300-750g/h/d

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<tbody>
<tr>
<td>Dry matter (%)</td>
<td>93.0</td>
</tr>
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<td>Oil (%)</td>
<td>40.0</td>
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<tr>
<td>Protein (%)</td>
<td>2.8</td>
</tr>
<tr>
<td>Methionine (%)</td>
<td>2.6</td>
</tr>
<tr>
<td>Fibre (%)</td>
<td>18.4</td>
</tr>
<tr>
<td>Ash (%)</td>
<td>5.6</td>
</tr>
<tr>
<td>Rumen inert sugar</td>
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</tr>
<tr>
<td>Choline (mg/kg)</td>
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<tr>
<td>Vitamin E (mg/kg)</td>
<td>1,000</td>
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<tr>
<td>Selenium (mg/kg)</td>
<td>2.0</td>
</tr>
<tr>
<td>ME (MJ/kgDM)</td>
<td>25.0</td>
</tr>
</tbody>
</table>

Typical fatty acid profile

<table>
<thead>
<tr>
<th>Fatty Acid</th>
<th>%</th>
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<tbody>
<tr>
<td>&lt;C14:0</td>
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<tr>
<td>Ω6:Ω3 ratio</td>
<td>1.8:1</td>
<td></td>
<td></td>
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</tbody>
</table>
Glycerene
Efficient glucogenic energy supply

The proven way to boost rumen-inert energy supply to transition and fresh calved cows, helping them settle into lactation and achieve high dry matter intakes while minimising body condition loss.

- A unique rumen-inert form of glycerol which is the most efficient precursor of glucose to supply the essential nutrient direct to the liver
- Improves the efficiency of fat absorption so reducing the amount of body fat that needs to be mobilised, and therefore reducing the levels of BHBs and NEFAs in the blood
- This rumen-inert form of glycerol means it is a more efficient source of energy than liquid glycerol sources
- Stimulates higher dry matter intakes
- Typical feeding rate: 300-750g/h/d

Typical analysis

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<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry matter (%)</td>
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<td>Oil (%)</td>
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<tr>
<td>Protein (%)</td>
<td>1.2</td>
</tr>
<tr>
<td>Fibre (%)</td>
<td>16.5</td>
</tr>
<tr>
<td>Ash (%)</td>
<td>8.7</td>
</tr>
<tr>
<td>Rumen inert sugar (%)</td>
<td>52.0</td>
</tr>
<tr>
<td>ME (MJ/kg DM)</td>
<td>14.5</td>
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</tbody>
</table>

T: 07717 442888 | E: andrew@davidbardgett.co.uk | www.davidbardgett.co.uk
Glyco-Buf
Improving rumen health for high intakes

A specific rumen buffer containing glycerol designed to maintain optimum rumen pH in high yielding, transition and early lactation cows to improve energy supply leading to improved DMI, lower body condition loss, fewer metabolic disorders and increased yields.

- A unique slow-release calcium diglyceroxide rumen buffer which maintains rumen pH in the optimum range of 5.8-6.2 reducing the risk of acidosis and SARA
- By improving rumen efficiency it increases fibre digestion and forage utilisation for higher milk constituents and yields
- The inclusion of glycerol increases the energy supply to the liver to support milk yields and increases fat utilisation, reducing body fat mobilisation
- Typical feeding rate: 300-750g/h/d

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<td>17.6</td>
</tr>
<tr>
<td>Ash (%)</td>
<td>10.0</td>
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<tr>
<td>Calcium</td>
<td>1.0</td>
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<tr>
<td>DCAB (mEq/kgDM)</td>
<td>71.2</td>
</tr>
<tr>
<td>Rumen inert sugar (%)</td>
<td>52.0</td>
</tr>
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<td>ME (MJ/kgDM)</td>
<td>14.5</td>
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</tbody>
</table>
**Venus**

**Establishing fresh cows on the right track**

A balanced energy supplement combining glucogenic energy sources and fatty acids designed to get fresh-calved, high yielding and Channel Island cows milking to their potential with a robust immune system and ready to get back in calf quickly.

- The inclusion of glycerine, an efficient precursor of glucose, increases the energy supply to the liver to support milk yields and improves fat utilisation, so reducing body fat mobilisation. Liver function is also enhanced by the inclusion of choline.

- Contains C16:0 (palmitic acid) to boost butterfat production in early lactation.

- Includes a combination of omega 3 fatty acids, Vitamin E and selenium, which helps minimise oxidative stress and ensures a strong immune system.

- The long chain omega 3 fatty acids from marine sources (EPA and DHA) support improved herd health, fertility and productivity.

- Typical feeding rate: 500-750g/h/d

### Typical analysis

<p>| | |</p>
<table>
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</thead>
<tbody>
<tr>
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<td>Oil (%)</td>
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<tr>
<td>Protein (%)</td>
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</tr>
<tr>
<td>Fibre (%)</td>
<td>20.0</td>
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<tr>
<td>Ash (%)</td>
<td>5.9</td>
</tr>
<tr>
<td>Sugar</td>
<td>17.5</td>
</tr>
<tr>
<td>ME (MJ/kgDM)</td>
<td>24.5</td>
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</table>

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<td>C18:0 Stearic</td>
<td>10.0%</td>
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<td>5.3%</td>
<td></td>
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<tr>
<td>Ω6:Ω3 ratio</td>
<td>0.57:1</td>
<td></td>
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Mycotrap

Unique broad-spectrum mycotoxin binder

A research-developed mycotoxin binder including glycerol, to enhance protection against the major categories of mycotoxins, helping reduce toxin related diseases and improve immunity and productivity.

- Independently tested at Gent University, the specific activated clay minerals have a strong binding capacity for a broad spectrum of mycotoxins across the whole pH range found in the gut

- Proven to be effective against the eleven most commonly occurring mycotoxins in animal feeds including Aflatoxins, Fumonisin, DON, ZON, T2 and Ochratoxin

- Glycerol increases the glucose supply and helps strengthen the immune system. It also has a preservative effect, inhibiting mould growth in feeds and finished rations

- Typical feeding rate: 3-5kgs/tonne of feed
  - Dairy cows - 25-50g/h/d
  - Growing & finishing cattle - 15-30g/h/d
  - Sheep and goats - 5-10g/h/d

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<tbody>
<tr>
<td>Dry matter (%)</td>
<td>98.0</td>
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<tr>
<td>Ash (%)</td>
<td>94.0</td>
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<tr>
<td>Bulk density</td>
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<tr>
<td>pH value</td>
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<tr>
<td>Appearance</td>
<td>Dark brown powder</td>
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## Balanced fatty acids for optimum efficiency

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<th>Dynalac</th>
<th>Supacream</th>
<th>Omega Cream</th>
<th>Omega 3 supplement</th>
<th>Utopia</th>
<th>Venus</th>
<th>Calcium soap</th>
<th>C16 product</th>
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<tbody>
<tr>
<td>ME (MJ/kgDM)</td>
<td>27.00</td>
<td>32.00</td>
<td>35.00</td>
<td>25.50</td>
<td>24.10</td>
<td>24.5</td>
<td>26.20**</td>
<td>24.60***</td>
</tr>
<tr>
<td>Saturated fat (%)</td>
<td>51.75</td>
<td>62.89</td>
<td>77.92</td>
<td>27.86</td>
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<td>Unsaturated fat (%)</td>
<td>45.20</td>
<td>37.11</td>
<td>20.66</td>
<td>54.05</td>
<td>74.07</td>
<td>39.07</td>
<td>36.26</td>
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<tr>
<td>C14:0 (%)</td>
<td>0.70</td>
<td>2.00</td>
<td>2.90</td>
<td>5.30</td>
<td>4.00</td>
<td>4.3</td>
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<td>C16:0 (%)</td>
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<td>46.00</td>
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<td>C18:0 (%)</td>
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<td>6.30</td>
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<td>12.00</td>
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<td>13.10</td>
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<td>15.0</td>
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<td>C18:2 (%)</td>
<td>17.70</td>
<td>8.40</td>
<td>3.50</td>
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<td>C18:3 (%)</td>
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<td>1.10</td>
<td>0.40</td>
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<td>1.7</td>
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<td>C20:5 EPA (%)</td>
<td>1.80</td>
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<td>C22:6 DHA (%)</td>
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<td>1.20</td>
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<td>Total Omega 3* (%)</td>
<td>7.20</td>
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<td>9.00</td>
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**Transition**

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**Early lactation**

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**Mid lactation**

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**Late lactation**

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G = well suited   O = usable but not ideal   R = not recommended

*total omega 3 = C18:3 plus EPA and DHA   ** NRC 2001   ***Weiss. *et al.* 2011