CATTLE NUTRITION

Sunflower meal for dairy cows

How to replace part of the soybean meal in a dairy concentrate with sunflower meal without losing milk, including protein and energy adjustments.

By FeedSport Nutrition Team · Published 6 October 2026 · 3 min read

KEY POINTS

- Sunflower meal is a locally available, palatable protein source well suited to cattle.
- Replace soybean meal on a protein basis, not kilogram for kilogram: about 1.4 kg of 33% sunflower meal supplies the protein of 1 kg of 46% soybean meal.
- Sunflower meal is higher in fibre and lower in energy, so add energy elsewhere in the ration.
- High-yielding cows may still need some soybean meal or other higher-quality protein.

Soybean meal is the standard protein ingredient in dairy concentrates, but it is often expensive. Sunflower meal, produced locally from sunflower oil extraction, can replace a large part of it in dairy rations. Done carefully, milk yield holds while concentrate cost falls.

Why sunflower meal suits ruminants

Cows rely heavily on the microbes in the rumen. Those microbes break down feed protein and build their own, which the cow then digests. This makes cattle less sensitive to an ingredient's amino acid profile than pigs or poultry. Sunflower meal's lower lysine content, a drawback in pig and poultry feed, matters much less for cows.

Sunflower meal is also palatable, and its fibre is useful in a dairy ration.

Know your sunflower meal

Sunflower meal varies widely. Its protein content depends mainly on how much of the hull is removed before oil extraction:

- **Non-decorticated** (hulls left in): lower protein, higher fibre
- **Partly or fully decorticated** (hulls removed): higher protein, lower fibre

On our specification, sunflower meal contains about 33% crude protein and about 26% crude fibre. Always

check the batch specification before formulating. See how to read a feed ingredient specification.

Replace on a protein basis

The most common mistake is swapping sunflower meal for soybean meal kilogram for kilogram. That lowers the protein in the ration. Instead, match the protein:

> Sunflower meal needed = soybean meal removed × (soybean CP% ÷ sunflower CP%)

Using our specifications: 45.6 ÷ 33 ≈ 1.4. So **about 1.4 kg of sunflower meal replaces the protein in 1 kg of soybean meal**.

Make up the energy

Because sunflower meal is high in fibre, it supplies less energy than soybean meal. When you increase it in the concentrate:

- Watch the ration's total energy. Lower energy reduces milk yield and can cause cows to lose condition.
- Add an energy source such as sorghum or maize to compensate.
- Keep the overall fibre balance in mind, especially if forage is already fibrous.

How far can you go?

Cow group	Practical approach
Dry cows and heifers	Sunflower meal can usually supply most or all supplementary protein
Moderate yielders	Replace a large share of soybean meal, balancing energy
High yielders, early lactation	Keep some soybean meal or other high-quality protein; replace part only

High-yielding cows in early lactation have very high protein requirements. They may need protein that escapes rumen breakdown, which soybean meal supplies more of than sunflower meal.

Making the switch

1. Get the batch specification for your sunflower meal.
2. Calculate the replacement on a protein basis.
3. Add energy to make up the shortfall.
4. Change the ration over about a week to give the rumen time to adapt.
5. Watch milk yield, butterfat, body condition and dung consistency for the next two to three weeks.

Storage

Store sunflower meal dry and off the ground. Check for mould, which can carry mycotoxins harmful to cows and that may pass into milk.

Ask us for a dairy concentrate review using your current forage, or check a draft in the formulation tool.

Need a diet checked? Send your ingredients and targets to the FeedSport nutrition team on WhatsApp +263 77 468 4534 or sales@feedsport.co.zw.

Figures in this guide are typical values and general ranges. Confirm targets for your animals, genetics and ingredients, and check batch specifications before formulating.