Fattening of old cows on maize residues

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Cows that have exceeded their reproductive life are often fattened on the farm, depending on prevailing meat and grain prices. The market for lean old cows is generally unfavourable and the prices low. However, if you have cost-effective feed sources at your disposal and the price margin is positive, adding value to your cows is an attractive option.

Cows can lose as much as 15 to 20% live weight during lactation. This opens the door for cows to gain enough weight after they've weaned their calves while higher prices are being paid for fatter carcasses.

Maize residues are a valuable and economical source of feed to fatten old cows relatively quickly and cheaply, depending on the calving season and therefore the time in which calves are weaned. The ideal is usually to get cull cows into a marketable condition within the shortest possible time, as time is money.

Old cows' body condition can vary considerably, especially that of old cows destined for finishing on maize residues in winter. These cows often wean their last calves during late autumn and early winter, and their condition will therefore not be as good as that of comparable cows that wean during the other seasons. Hence, the profitability and success of the finishing process depends mainly on the cow's condition at the start of it.

Add the correct supplements

Maize residues are typically high in fibre and relatively high in energy at the start of grazing, depending on the number of cobs left in the field. For the old cow to utilise residues as best she can, she must receive a balanced energy-protein supplement that provides the correct nutrients. This can be in the form of an energy-protein lick or high-energy concentrate (the composition and recommended intake per animal per day will be different for both).

The type of supplement depends on the rate at which the animal must be fattened, the quantity and quality of available grazing, and the prevailing meat and grain prices.

Mature cows' muscle tissue is fully developed; finishing is therefore aimed at getting cows in a marketable condition mostly by only depositing fat on the carcass. The supplement provided to old cows will generally have a higher energy level in relation to natural protein; thus, it is aimed at maximum energy supply, in contrast to weaned calves. The supplement for old cows is therefore much cheaper than one for younger, growing or producing animals since it doesn't contain high-quality natural proteins (typically oilcake meal to supplement bypass protein).

Old cows have no need for energy to support pregnancy or produce milk, for example. All energy can thus be converted into fat. The effectiveness of the fattening process depends mainly on the composition of the supplement and that of the grazing.

Rumen support

The natural proteins provided by grain, as well as the non-protein nitrogen (NPN) that is usually provided by urea, are sufficient to meet her protein requirements. In broad terms, she must consume enough NPN to support the functioning of the rumen microbes (crude fibre digestion) and enough energy to enable these microbes to convert NPN into a usable form. Since starch serves as an energy source for fat deposition, sufficient amounts of it must be available for absorption in the lower digestive track.

For this purpose, a typical supplement should contain milled grain. Large stock are able to utilise milled grain better than whole grain, as they are less efficient at ruminating than small stock. In addition, it will usually contain a source of NPN (e.g. urea), a buffer to stabilise rumen pH and limit the risk of acidosis, as well as the necessary minerals and vitamins. The supplement may also contain salt and molasses.

Antibiotic growth promoters and ionophores can be included to improve

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feed conversion and prevent grain-induced bloat. Moreover, it is also important to keep the condition of old cows' teeth in mind when considering the physical form of supplements.

Prevention of acidosis

In order to prevent digestive disorders, it is always a good practice to adapt cows to the supplement and maize residues before moving them onto the fields permanently. Gradual adaptation is necessary to ensure good establishment of the starch-digesting rumen microbes before maize residues are grazed – this will support optimal usage of grain while limiting acidosis.

During late autumn and early winter, old cows normally receive a maintenance lick containing NPN and small amounts of starch (grain), meaning the microbial population responsible for starch digestion is not well established. Thus, the risk of acidosis will increase exponentially if the cows are not adapted gradually.

Enough crude fibre (maize leaves and stubble) or effective fibre must be available at all times to support rumen function. This will support the rumen, allowing the cow to make full use of the supplement. Once the maize residues become less (especially cobs), the voluntary intake of the supplement will increase, which is when digestive disorders tend to emerge.

Although large stock can utilise a greater quantity of maize residues (them being less selective grazers than small stock and hence a lower risk of digestive disorders), it is still prudent to keep a lookout for any signs of problems.

Other ways of keeping digestive disorders at bay is to ensure that enough feeding or trough space is available, so that all cows can consume their daily portion simultaneously – this will help prevent overeating. Supplements of which large volumes are consumed require bigger feeding space per large stock unit (LSU). At least 20cm/LSU is recommended for supplements with a daily intake of more than 1kg/LSU/day.

A balanced formulation

Keep in mind that, if used correctly, supplements utilised in conjunction with maize residues (or any supplement) is specifically formulated to limit digestive disorders and optimise results. Animals must therefore consume sufficient amounts in accordance with intakes recommended by a nutritionist.

An old cow that is fed a balanced supplement which meets all her needs can potentially become market-ready in a relatively shorter period. However, given the various factors that can affect her performance, it is difficult to quantify this accurately. As mentioned, her initial condition, combined with the quality/composition of the maize residues and supplements, will have a considerable influence on how quickly she deposits fat; weather conditions may also play a role in the success of the endeavour.

The use of maize residues for fattening old cows is a workable option that can yield good results when part of an optimal supplementary nutritional programme. Talk to your nutritionist about a balanced option to achieve the desired results. SF

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