DietCheck New Zealand News

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With falling milk prices it is even more important than ever to take informed decisions about when supplementary feed is needed and just as importantly, when extra feed is not needed. If herd profitability is to be maintained then not only the output of total solids but herd health and fertility must be maintained. We believe that DietCheck is uniquely placed to help both farmers and advisers to make these difficult decisions.

In this issue of DietCheck News

DietCheck Worldwide

We are very proud of the fact that DietCheck is increasingly being used throughout the world – in many countries throughout Europe, New Zealand, Australia, South Africa, and now China.

This not only shows the confidence that is being shown in the program but sets the DietCheck team new challenges to cope with new feeds and different feeding systems. We are able to learn from all of these opportunities and this knowledge is fed back into our development plans.

Should you feed supplements?

The obvious answer to this question is "no – as long as the forage available is able to support the level of production required." With the basic milk price in New Zealand falling by around 25% it would be easy to change this answer to "not under any circumstances!" However, as so often in life, the obvious answer is not always the best approach in the long term.

If your business is committed to "low input and low output" then the herd must continue to rely on grass and, especially now the milk price is so uncertain, any extra feed is likely to be a luxury unless grazed grass becomes severely limited. However, this approach is bound to limit both milk yield and milk quality and sub-optimal fertility is almost bound to be an issue.

If the farm's business plan allows for this low level of performance then these restrictions may be acceptable. But many New Zealand farm business plans now require higher levels of production in order to meet financial targets and herd management systems may have been changed to facilitate this. Increased genetic merit, higher stocking rates, the introduction of some extra feeding facilities such as a bunker pad or feed in the shed, etc are all possibilities. If higher output – both in terms of milk solids and dollars – is the aim then some careful thought needs to be given as to "if & when" any extra feed should be considered. This is not just a matter of an immediate response in terms of milk solids output when the feed is given but the possible beneficial effect later in the lactation and a response in improved fertility. With seasonal calving maintaining, or improving, fertility levels will have a major impact on overall herd profitability that will not be seen as just an immediate change in "margin per kg milk solids".

Balanced nutrition will allow the animal to express her genetic potential whilst the farmer needs to know that it will be economically viable to provide any extra feed. It is sometimes easy to get a response by feeding in early lactation in terms of both production and fertility but you must also be prepared to stop feeding when any response becomes marginal.

This is where DietCheck can be such a help – it allows the user to predict where extra feed is required and just as importantly when extra feed is not needed or will not give an economic response.

DietCheck & Grazing Diets

When looking at grazing diets be prepared to use DietCheck's ability to do a "what if?" You never know exactly how much grass will be eaten each day, or the exact nutritional value of the sward being offered, but you can look at a series of "what ifs" based on your knowledge of the farm and the season. The trick is to do four things:-

1. Spend some time deciding of the correct target animal you are trying to feed. Be realistic about the expected total solids output – remember that Total Solids output is a combination of milk volume along with the butterfat & protein %. DietCheck allows you to look at these three factors and see the effect of changes on daily TS output.
2. In early season remember the importance of optimum fertility and the need to limit weight loss to achieve this.
3. Take some trouble to estimate the value of the sward – be realistic about the DM as it is often lower than you expect. Remember that during wet periods grass DM will fall as low as 15% so check that the expected grass intake is realistic during these periods.
4. Start your diet by entering an estimated intake of grazed grass as *Dry Matter* for your target cow. Then switch to *Fresh* and prepare to be amazed at how much the animal will have to eat! For example 18 kg of DM when the grass is 15% DM needs an intake of 120 kg of fresh grass. At this stage you may need to reduce the estimated intake to a more realistic value.

In New Zealand all DieCheck users have the added advantage of being able to take account of the extra energy needed for the animal to travel to the paddock and to graze. If the extra energy for grazing is not accounted for the cow will still do the walking and then adjust milk output, or perhaps reduce fertility, to balance her nutritional account.

Once the ration is balanced to meet the energy requirement, protein balance must be assessed. This can be difficult when dealing with high protein spring grass, so we need to interpret the DietCheck predictions and decide what adjustments should be made to improve the balance. Many users find grass based diets difficult because they see a very large excess of ERDP and are rightly concerned that this may cause problems. There are two factors here that are often misunderstood:-

First of all remember that there is ***no requirement for ERDP***! The value shown under the requirement column is the prediction of the amount of microbial protein that can be produced from the energy supplied to the rumen by the diet. So generally the amount of microbial protein yield is controlled, and thus limited, by the energy supplied to the rumen. To demonstrate this look at a ration with a big excess of ERDP and then just add more rumen available energy (try 2kg wheat) and you will see that the ERDP excess is immediately reduced. Once you are familiar with this area of energy/protein interaction it becomes easier to interpret and balance diets.

Secondly, accept that a grazing diet inevitably supplies high overall protein, and specifically a higher excess of ERDP. It is not possible to feed 25 – 30% protein grass and still reduce the excess ERDP in line with animal requirements. Fortunately (perhaps because grass intake is spread over a long grazing day and each mouthful contains plenty of energy as sugar) the cow is normally able to cope with this higher excess when grazing.

Of course all of this *must* start from the premise that *maximum output must be obtained from farm forage at all times*. As a farmer it is often easier to add an extra feed to the diet and see if there is a yield response than it is to reduce supplementary feed and risk a fall in production.

NDF Degradability & Acidosis

We normally look at the amount of NDF in a diet to give a guide as to likely rumen function and suggest a target of 32 – 35% of the total DM in an early lactation ration with at least 20% of the NDF coming from forage. Although these guidelines can be helpful they can sometimes lead us astray because NDF sources can have very different degradabilities. The analysis of diets using forages like spring grass and early cut grass silage often shows ample NDF, indicating enough structural fibre to maintain optimum rumen function. However, in practice these rations may still lead to sub clinical acidosis.

The reason is, of course, that all NDF is not equal and, although the FiM RSV (rumen stability value) can give extra help, we really need to have a better description of the fibre. At DietCheck we have been looking at this problem and considering possible solutions for some time in an attempt to give more accurate information when formulating rations for high performance cows.

We expect to have a system operating within DietCheck in time for the start of the next New Zealand calving season.

Extra Nutrients available to all

As discussed in the section above, it is helpful to know the amount of NDF from forage as well as the total NDF in a diet. This, along with a range of other nutrients, has historically only been available in some versions of the program or as an optional extra. As part of the next major update, due in the autumn, we will include these nutrients in all versions of DietCheck free of charge to members of the Maintenance & Support scheme.

These extra nutrients are:-

- **NDF (Neutral Detergent Fibre) from Forage -** Helps guide if there is enough functional fibre
- **DCAB (Dietary Cation Anion Balance)** - Used mostly in dry cow diets
- **Rumen Starch & Rumen Bypass Starch** - Calculated using the rate of starch degradation at the appropriate rumen outflow rate. Individual feed starch degradation rates are shown, and can be changed, in the feeds screen.
- **Starch plus Sugar** - A useful measure of quickly fermented rumen energy

All these values are shown in the formulation screen:-

NDF from Forage (g)	5088.9	
NDF from Forage %DM	22.0	
Rumen Starch (g)	2916.9	12.63
Undeg Starch (g)	534.0	2.31
Starch plus Sugar (g)	5106.1	22.11
DCAB (mEq/kgDM)	321.8	

Version 3.3 No Longer Supported

Due to the many changes in computer operating systems and enhancements within DietCheck, any version prior to 4.0 will no longer be supported (i.e. version 3.33 and earlier). If for any reason you are still using an old version and would like to upgrade to the latest 5.1 version please contact us as soon as possible.

Maintenance & Support

You will see form this Newsletter that DietCheck continues to improve and we will be working over the northern summer on several very exciting developments that we intend to introduce ready for the northern winter feeding period. If you are not already a member, then why not join the annual Maintenance & Support scheme to receive all updates and ensure your version is always supported.

Change of contact address

You will note that there is a different postal address at the top of this Newsletter which should now be used for payments and all other surface mail.

We hope you have found this edition of the Newsletter of interest – please keep visiting the DietCheck website for updates and technical information and, if you have any questions, do not hesitate to contact us.