

# Use of concentrates around VMS

*September 2024:*

**Do you have a concentrate feed box?**

Sometimes you need a concentrate feed box to be able to give the desired extra amount of concentrate feed that cannot be taken up in the milking robot to high-producing cows.

Do you have insight into whether these cows are actually coming there and whether the programmed amounts are being taken up sufficiently?

There are nice lists to show this, especially when it is programmed as an extra type of feed.

And when was the concentrate feed box last calibrated?

*January 2022:*

**Number of days busy with concentrate build-up or reduction.**

When a cow has to be fed more or less concentrate, for example by adjusting the feeding table or simply because she gives more or less milk, it will take a few days to do this, depending on the setting per feed type regarding build-up or reduction.

As long as these days last, she will finish this assignment before accepting a new calculation.

It is good if you also have a column in the list where you check the concentrate dose with how many days the cow is still busy building or breaking down the concentrate which can deviate the most.

***Mai 2020:***

**Increasing concentrated feed after calving – 2.**

Using DelPro 5.2 or higher, feed tables on DIL (Days In Lactation) can also be used.

This is very useful for increasing concentrate at the right pace after calving.

During company visits, we sometimes come across situations in which the concentrate build up goes from day 1 to 25 days in one stretch. This process can go much smoother, using more steps, as there are as many as 12 steps possible. Especially with heifers, it is very sensible to build up calmly in the first week and then a little faster.

With rations of 2/3 maize as roughage, you should start more slowly than when using a ration with only grass silage / hay. It is also better to build up slowly if the feed fence offers a higher basic ration with multiple by-products. In this case use more steps, for example, divide the first 25 days into 5 steps of 5 days.

And as with many settings: A good concentrate feed table is good for the “normal” cows. If a cow has had a heavy calving, or for other reasons has had too little roughage intake during the first week, it is also better to start with concentrate for this cow more carefully. If the cow is very active, in generous condition and has a quickly increasing milk production: then this cow may be able to start up a little faster!

***February 2019:***

**Feeding concentrate at “Peak Yield”**

From the version DelPro 5.2 it is possible to use a feeding table at "Peak Yield".

The concentrate feed for cows up to about 100 Days In Milk (DIM) is often a point of solid discussion:

Do we use an invariable feeding table or not?

These cows must be given the opportunity to give a lot of milk, even though they could temporarily decrease production. Of course, these cows require a lot of energy, (concentrated) feed.

But many advisers and veterinarians observe that during this period some cows who aren't very comfortable and do not give a lot of milk in general, they are worse off with too much of concentrated feed.

Since DelPro 5.2 there is the possibility to make also a feedtable at Peak Yield.

This is a nice system for feeding cows after the start-up period, for example up to 40 DIM, and then from about 40 days to 100 DIM go feeding on Peak Yield table.

Then the cows that give a lot of milk get the food that is due to them, but cows that for some reason give too little milk, for example: she has calved too soon, then she will only grow from much concentrate, which is too expensive and gives often problems later on.

Or she has problems with her rumen or claws and therefore too little roughage intake, and therefore she never gets (for longer time) high production. That cow should get less – for her – rumen acidic concentrate feed.

If a cow that gives a lot of milk still temporarily decreases in production, she will continue to keep the concentrate that belongs to the highest production she has given as a 7-day average during this period.

So the concentrate feed amount remains stable.

After 100 days in milk, the negative energy balance period should be depleted. If the cow gives less milk, then you should also decrease the concentrate.

So after 100 / 120 days the advice is: just feed on "Milk Yield" table.

*It is still important to check what you feed each cow via a clear list once a week.*

### **October 2018:**

#### **How much concentrate fed per milking robot visit.**

How much concentrate may a cow receive per visit to the VMS? That depends on what more is being fed. For example, when the cow steps out of the VMS, does she then immediately get a ration with lots of concentrate-like by-products?

If this is a high basic ration we have to look out for rumen acidification. A gift of 2 kg or better less, per visit should be the maximum.

However, if you only feed roughage with a lot of flavor (good intake) at the feeding fence what has also good structure value, then the cows can get 3 kg or even more per VMS visit.

You can change this setting under "Unit".

If you set a higher concentrate feed rate than  $2\frac{1}{2}$  kg per visit, remember that there should always be good and sufficient feed in front of the feeding fence.

A cow shouldn't eat 3 kg of concentrate on an empty stomach ...

With larger rations of concentrated food per visit, we should also pay extra attention to whether or not the cow gets enough time to eat it during her visit. So, the dosing speed per VMS and per cow also plays an important role. (See Tip of the

Month – May 2014)

With a 6 minute visit to the VMS, a dosing speed of 400 grams per minute is at most 2.4kg.

In practice not many cows can eat more than 2 kg per visit.

***July 2017:***

### **Minimum in Feeding Station.**

Now, instead of the total liters of milk being fixed, the number of cows you can have are fixed.

For this reason, the importance of getting the most milk per cow becomes relevant.

More milk means more feed from e.g. concentrate.

However, the VMS cannot provide all the feed, so it is worth considering feeding some in a concentrate box.

Make sure you have the amounts and settings set right for optimal using.

Not too much, especially not per visit. The VMS must remain crucial.

If a cow goes to the VMS less than 2.5 times a day, then you have to ask yourself: “Does she deserve to get concentrate in the feeding station?”

***December 2016:***

### **Fully automatic feeding or partially automatic feeding?**

With DelPro by DeLaval you can choose on how far you'd want to operate the feeding of concentrate automatically: from 0 % to 100 %. From keeping part of the work in your own hands to not having to do any work!

Operating fully automatic is easier, because you'll never forget to do your job. However, you will miss the finer points regarding the differences in condition and / or fitness from your individual cow.

During the winter, dairy farmers spend relatively more time in their barns and with their cows. So, I think it is time to work less on automatic and having the farmer run a more thorough checkup.

DeLaval advises to let the computer calculate weekly and, depending on the amount of different types of feed, set the deviation, "Max ration threshold" back to 30 % – 50 %.

The more types of feed available, the higher the percentage can be.

This is due to the fact that the increasing or decreasing amount of levels of concentrate measured in grams are little, but still a lot in terms of percentages.

The lower the percentage, the more influence, the more cows on the attention list

You can adjust this in: Feed => Feed Table Assignments => Feed Table Parameters

Then you have to check the List: "Ration Calculation Log" weekly!

I can imagine you put the percentages higher in the summer than in the winter.

### ***February 2015:***

**Feeding settings, your choice how: Range from 0% automatic to 100% automatic**

In DelPro the options in regard to the concentrate are extensive.

You now have the choice to full manually insert a concentrate amount, automatically 0%, to fully automatic, 100%, fed by Delpro.

At 100% automatically feeding the computer assumes that all cows are equal, but you know better!

Hence, many farmers actually opt for a way between, semi-automatic. Then the cows that should have minimal modifications, the concentrate adjustments are done by the computer but the cows which need a larger adjustment will result in the computer asking the farmer to allow this adjustment or not.

It always starts with inserting good feeding tables that fit the other ration appropriately.

Building up concentration after calving is always done best manually.

After ca. 50 – 60 Days in Lactation you can manually check but also let the computer adjust the concentrate amount, for example every 7 days and only to the cows whose change isn't greater than i.e. 30%. (Feed Table Parameters)

A cow that needs special treatment can be excluded from the automatic ration calculation. This is done by selecting "Exclude from automatic ration calculation" on the cow card.

It is for some cows wise to manually adjust the concentrate amount due to condition, setting her dry soon, diarrhea, etc.

These cows are so long excluded from automatic feed calculation until you unselect, so you should not forget them!

That is also the reason that when you check the Loglist on different Concentrate amounts you should also immediately check which cows are on the list and why. (Reports => Default Reports => Feeding => Ration Calculation Log)

You can do that most conveniently in the log list by clicking on "Reason" in the blue filter (funnel) top right hand side on

the screen/window.

That is where you can see all of the possibilities. If you press "Animal is excluded from ration calculation" for example, you can see which cows are currently excluded. Or which are still building up or decreasing.

### **May 2014:**

#### **Provide dosing speed of concentrate.**

Under "Device" you can tell VMS how fast to give concentrate to the cow.

How fast she has to feed depends on how much you feed and how fast your cows are.

It is also important that the cow's visit to the VMS is pleasant as long as possible.

It's no fun when the chunk is already gone, while she is only being pretreated.

If you have a high base ration at the feed fence and feed the cow a maximum of 4-5 kg per day then give the VMS a Dispensing Rate of 0,30 kilograms per minute.

If you have a low base ration and the highest cows need 8 kg in VMS then you should keep a feeding rate of 0,45/0,50.

Note that the average cow eats about 0.40 kg per minute. So if you use 0,50 as Dispensing Rate, then you have to use the possibility for the individual cow to reduce the "Consumption Rate" when, for example, she gets just a little "attraction chunk".

The dosing of the feeding station should never actually be higher than 0,30 kg per minute.



**July 2013:**

### **Concentrate build up after calving**

During my dairy visits I now often leave a report behind about concentrate buildup after calving.

It's evident that this is a very important issue.

The best results are achieved when you fill in the report with a nutritionist who knows the qualities of your forage but who also knows the characteristics of the concentrate you're using.

How this has to be used is what I spend much time on because guiding cows through their transition period takes skills, is very profitable and expands the lifespan of the cows.

For cows that have no problem calving and who keep showing up at the feeding barrier afterwards, concentrate build-up isn't difficult and a lot of usable knowledge is already available. We keep in mind that cows that are about to calve eat less forage than usual but that she will eat more and more each day in the oncoming weeks. A cow and her rumen can than handle more concentrate without is having to get worried about rumen acidification, laminitis or a negative energy balance, etcetera. (see tip October 2010).

There are also cows that for example have calved too heavy, or who, for some reason, are too skinny at the start of the lactation, or who can't walk comfortable, etcetera. Not being dried off in a good condition but certainly not having calved in a good condition.

When these cows visit the feeding barrier insufficiently, then these are the cows where we would like to build up the concentrate less fast and where we certainly should be more careful with "faster" (grain) or high protein concentrates.

With heifers we are very careful with these concentrates, because, apart from giving milk, they still need to grow.

(Having 10.000 kilograms of milk in 1 year is fun, but a lifelong production of 100.000 is better ;-))

On the list given, these cows are called "the difficult start" group. These are all the cows of which you think that the forage intake is minimal, the first days or weeks after calving. It is also possible that some fat cows are just too lazy or that they calved with edema or fat so they visit the feeding barrier not enough (too little structure compared to the energy in the dry-off time?).

I have made a category "Too fat and dominant" and with this we mean the dominant cows: these are the cows that take charge right away after calving, they push other cows away and usually they are on high production very fast after calving. You can build up concentrate with these cows faster than with other cows. Otherwise, these cows will lose productiveness after 40 days.

Of course, the goal is to get all of the cows back into the "healthy category". Sadly, we don't always have our livestock under control. But providing proportionally more structure instead of energy, more space to walk, to lie down and to move, manicured claws, correct Ca / P ratio and correct Cations / Anions during the dry-off period, will take many cows in the desired section.

Very complicated! Fortunately, with DeLaval you will have the possibility to easily make your own adjustments if things have not been going according to the directions.... Good Luck!

***February 2013:***

**Concentrate feed station or not?**

Many dairy farmers with a milking robot also have a concentrate station or debate whether one is needed.

We may not expect a cow to eat more than 8 kilograms concentrate in the VMS.

(In V300 with shorter milking times  $\approx$  5 – 6 is maximum)

Most cows even find that to be too much.

So if, in the long run, more concentrate is needed to keep the cows production at a maximum level, you have 2 options: A larger ration with maybe more “extra” products along the feeding fence, or more kilograms of feed in the concentrate station (or a little of both).

A standard ration with extra products can make the ration along the feeding fence taste better, which was special interesting this year when most grass was less tasty. On the downside, cows can take a long time to select what they want to eat and because of that they will not eat the ration you calculated them to eat. Especially the low ranking animals or the cows that have a hard time coming out of the transition period, have problems eating your calculated ration and will eat when the most delicious food is gone and is not reaching the full amount energy or percentage structure.

A standard ration with supplements can easily become too high for the cows at the end of their lactation thus causing it to be expensive and giving you lazy or too thick cows. A concentrate station is often more convenient, you give it only to the cows that need it and the cows that are at the end of their lactation are easier to feed the right amount. Of course you also have the chance that the cows will come less to the VMS.

Again, the correct settings make the difference, so small portions in the concentrate station, keep an eye on how often the cow enters the VMS, will they only come in 2 times a day or maybe 4 times a day? Especially after calving the first time gradually build up the concentrate in the VMS and then build up in the concentrate station. If she is more than about

150 days in lactation or if she under a certain milk weight than put only concentrate in the VMS! Those are some things which make the concentrate station to a big value or no added value!

That supplement products may fit well is a fact, see the tip from December 2012, but that it also adds more waste and work is also known, so the results in accountant reports are almost always less attractive than you have calculated ....

**October 2012:**

**Oriented feeding expensive protein concentrate.**

As it looks at present is that the amount of protein in the grass silages is lower than other years. The grass grew quickly and much but had to do with the same fertilization.

And buying extra protein looks to be expensive.

Except that protein is a useful and necessary supplement for the cow it is also very conducive for milk: protein stimulates milk production. But for to keep that full production the cow has to eat also much energy. If every cow can, that is the question!

So a very good reason to control to feed which cow what!

For feeding for example soya / rape meal at the feed fence bossy cows often see their chance to eat their part plus a bit of the neighbor, or a lower ranking cow, or a cow is still in a box, to steal away. Then there can be easily go expensive food to the wrong cow. And especially when milking with a VMS, we hope that cows come often to the feed area but not all at the same time!

Taking away concentrate products from the feeding fence means you get a lower basic ration and thus more opportunities as gift in VMS.

It's definitely wise to feed skinny and / or sick cows and heifers a half to whole kilo concentrate with high protein less than their herd mates. That's not good to increase the production but the cow is recovering easier or the (small?) heifer gets the chance to grow into a stronger older cow.

And: "the last litre" for high productions this year could be very expensive!

How much milk can your cows give from basic ration + minimum gift in the VMS?

Go to the Status Board and sort on "Avg. daily Yield last 7-days" average and see how many cows produce less.

### ***September 2012:***

#### **Regular calibrate concentrate.**

As you know, concentrates do not always have the same weight. And because a VMS, but also feeding station, is volume dosing it is important to calibrate regularly. As you know: one liter of lead weighs considerably more than a liter of down.

And we see that concentrates sometimes is 10-30% heavier or lighter than your previous feed. That means that if the VMS does not know you might feed much % more or less concentrates as you think and calculated.

How do we calibrate? On the touchscreen, we go to "VMS Menu", then "Stall" and then we choose "Service". On the far right "Calibrate", including the third button "Feeder".

If we press, we come to the calibration screen. These four buttons you scroll through by clicking the "next" button.

Start with making the manger good clean. So you choose which method and with the next button which "Feeder" type. Choose always to "Repeat 3 times" as it is and remains a sample. Then with "Collecting" is the concentrate going to fall, it must

accurately been weight and if you have pushed "Repeat 3 times" recalculated again by three parts. (Also read the description on the screen).

Then we go to the PC and we open "Device", and "Alpro WE" to the station which is calibrated. Then it says in the lower block "Dispenser Name" and choose the type of feed you have calibrated. If you double click the screen will appear where the "Calibration Constant" has to be put in.

It is wise to do this anytime if you chance feed type, feed supplier or otherwise altered but also, for example 1x every three months. This assignment can be put in the "Service Timers".