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DRINKING WATER OXYGENATION WITH METO2 IS PROVING TO BE VERY BENEFICIAL FOR DUTCH DAIRY FARMERS

At the beginning of 2022 we introduced **METO2** to Dutch dairy farmers. The original purpose of MetO2 was simply to hyper-oxygenate (dairy) cows drinking water in order to block the methane production by the Methanogens (anaerobe bacteria that produce Methane) in the cow's rumen – the methane bacteria really dislikes oxygen and the presence of some oxygen will completely block its functioning.

FARMERS MAKE MONEY USING METO2 EVEN WITH LOWER MILK PRICES

MILK PRICES:

Dairy farm spending is very dependent on the price of milk + any bonus they can achieve from increased butter fat content, lower Somatic Cell Count (SCC), etc. Currently milk prices are low again and will remain low throughout 2024 according to the Global dairy market outlook 2024.

Hereunder the prognoses for 2024:



Note: above graph shows milk prices declining before stabilising at a lower and long term level over 2024

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In the Netherlands the milk price will be around € 0.40/litre milk (in USA milk is sold by hundredweight which is 100 LB or 44 litres. Price of 1 Hundredweight is 44 x € 0.40 = US\$ 17,60).

Extra milk production in a herd of 100 dairy cows is:

$$100 \times 1.6 \text{ L} = \underline{160 \text{ L extra milk per day.}}$$

Extra milk per month:

30 x 160 L = 4800 litres (US = 109 hundredweight).

Extra monthly milk income:

4800L x € 0.40 = € 1,920.00 (US\$ 2083.34)

In the Netherlands there will also be the added benefits of lower urea in the liquid manure which means that the farmer has less costs involved in removing and processing the liquid manure off-farm. Normal yearly cost is around € 1,500.00 for a herd of 100 cows.

MetO2 will lower this to about € 900.00 thereby giving a saving of € 600.00

EXTRA YEARLY PROFIT*:

12 x € 1,920.00 = € 23,040.00 + € 600.00 = **€ 23,640.00** (US\$ 25,656.00)

* Excluding bonus for (extra) butterfat and lower SCC

IT'S A MYTH THAT THE RUMEN MUST BE FULLY ANAEROBE

When we started – and even now - we had people tell us that the rumen needed to be absolutely anaerobe and that we should instead promote the use of products or nutrition that eliminate rumen oxygen and/or use probiotics.

- a) First I am against probiotics unless antibiotics have been used previously and you need to repopulate the Micro-Organism (MO) population.
- b) MO's are different for each geographical area so it's best to let the local MO become dominant and the best method is to stimulate their well-being, diversity and numbers.
- c) Using natural solutions that benefit the animal and the farmer as much and as cheaply as possible and give him the opportunity to earn a better living. The more a farmer earns the more he is able to spend.
- d) Research clearly demonstrates that the rumen actually needs some oxygen to work effectively and that numerous benefits can be obtained from a properly functioning slightly aerobic rumen. The key is to find the optimum dosage to obtain all the benefits and that's what we have been slowly doing.

METO2 DOES MORE THAN BLOCK METHANE PRODUCTION AS WE FOUND OUT

IN THE NETHERLANDS DAIRY FARMERS FACE A NUMBER OF PROBLEMS REGARDING AMMONIA AND METHANE EMISSIONS:

- Ammonia production is a major issue due its environmental pollution and the government is putting measures in place to limit the amount of ammonia produced. Some of the measures include buying out farmers and reducing herd size.
- Restricting the amount of liquid manure that can be spread out over a field. Excess manure has to be removed from the farm at the cost of the farmer. The amount to be removed is

determined by the amount of ammonia in the manure. For this purpose manure is given a number of points based on its content. On average a farm will have manure with 25 points. Using MetO₂ we have reduced this by 4 to 10 points saving farmers more money. Note that those with a 4 point reduction will see this increase over time to around 10 points.

- EU's Methane Action Plan outlines policies and activities that will support the Global Methane Pledge (GMP) to reduce global emissions by 30% by 2030. For information: ± 6% of the total energy ingested by a cow is transformed into methane. Some 10% of nutrients are unavailable to the cow (remain undigested) due to the methane bacteria. Methane is 80 times more harmful than CO₂ for 20 years after it is released.



TAKING SAMPLES – Measuring is knowing

For some time we have taken numerous samples from the numerous farms that are using MetO₂:

1. Water oxygen levels measured at 4 points:
 - a. Prior to MetO₂ dosage,
 - b. Directly after dosing
 - c. Halfway through the water distribution system,
 - d. In the water trough
2. Manure on farm testing:
 - a. sieve test,
 - b. colour,
 - c. smell,
 - d. general appearance.
3. Manure laboratory analysis
4. Report from farmers on animals health and weekly/monthly milk production
5. Milk factory analysis of milk

FROM THIS WE HAVE ESTABLISHED THE FOLLOWING:

- ⇒ Determination of the most suitable MetO₂ level in cows drinking water.
- ⇒ Optimal oxygen level required
- ⇒ Optimal nutrient digestion
- ⇒ Elimination of Methane through burping
- ⇒ Reduction of ammonia (urea) levels in manure
- ⇒ Elimination of Hydrogen sulphide (H₂S) in manure

- ⇒ Milk production increases on average to 1.5 – 1.8 litres of milk per cow per day
- ⇒ Increase butterfat by 0.5 – 1%
- ⇒ Significant decrease in Somatic Cell Count (SCC)
- ⇒ Significant decrease in mastitis
- ⇒ Decrease in milk urea level.
- ⇒ Significant decrease in case of Mortellaro (hoof disease)
- ⇒ Dosing colostrum with MetO2 significantly prevents calves from getting colic, pneumonia or other illness as it helps to rapidly boost the immune system.
- ⇒ Dosing MetO2 into the milk of young calves affected by colic (mortality rate 67%) has demonstrated excellent and rapid effectiveness (within 12-24 hours) in combination with antibiotics. In the last 2 months since MetO2 was used for this purpose no calves have died!

MORE INFORMATION CONTACT: MIKE DE JONG

WEBSITE: www.loxyde.com

We are still looking for representation in numerous countries.