

Stockpiling and strategic supplementation

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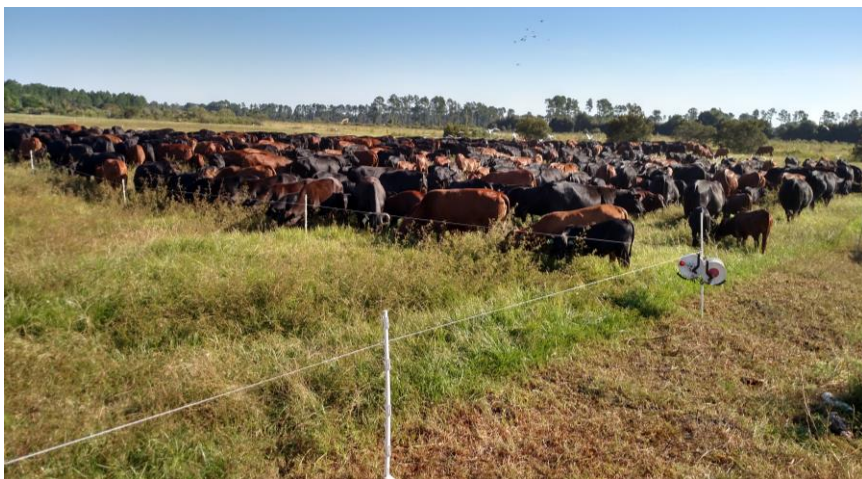
Stockpiled forages

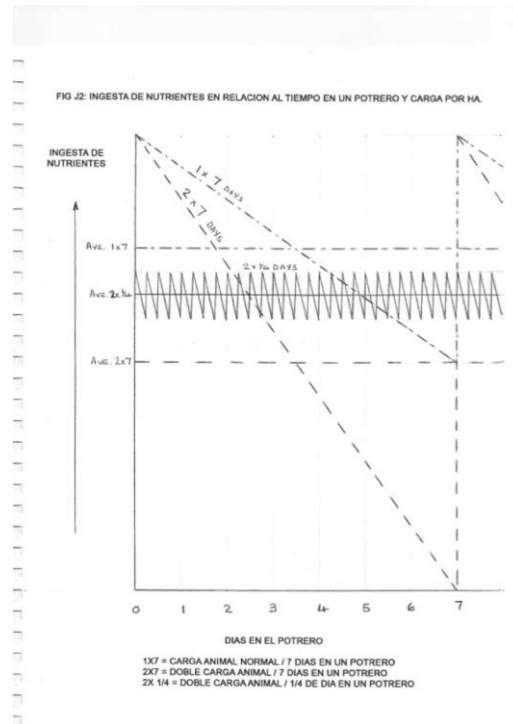


To harvest efficiently multiple breaks
are needed



Very high densities and 4 moves a day





High harvest efficiency and good manure distribution



Summer cover crop



Cows grazing cover crop



Residual after grazing at very high densities



High density but not high enough.

- Cattle graze the best species/part of plants first.
- Cattle dungs and fowls grass with manure, urine and dragging their hooves.
- They avoid grazing where it smells or is fowled
- This reduces the quantity/quality of forage on offer and diminishes grazing efficiency.

Supplementation



Enough feed bunk space for every animal



Half plastic drums bolted together



Detail



Supplementing under the polywire



Correct fill at last move



Water is the most important nutrient,
over 80 % of the body is water.



Observe the cow drinking water

- 60-70 continuous swallows indicate the water is good
- Bacteria that feed on Sulfur and Iron secrete an of flavor that cows don't like.
- We can use sodium hypochloride (clorox) to oxygenate the water and clean it from bad flavor/odor.
- When our cattle can tank up on water of good quality they can go less to the water trough and thus graze further from it.

CHON

- CARBON 9,000 calories/g
- HYDROGEN 25,000 calories/g
- OXYGEN -3,185 calories/g
- First we adjust the carburator on the cell, so to speak.
- Optimum percentage of oxygen on a dry matter basis is 40.5 %
- Once we do this we make sure the Hydrogen to protein ratio is correct so as to not have ammonia released.

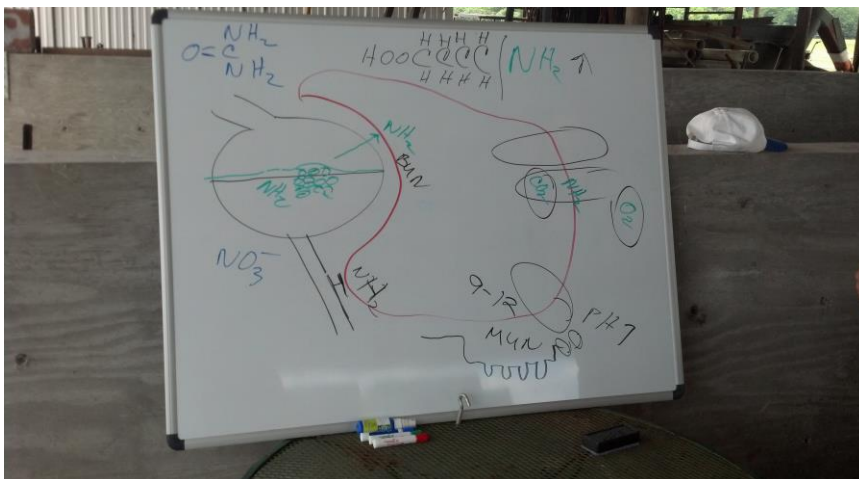
Oxygen, Hydrogen and protein

- Normally grass, when green, is low in oxygen content, low to medium in energy or Hydrogen and high in protein.
- We can increase efficiency of grass conversion managing the grazing so grass is lower in fiber and better balanced which will be different on different environments.
- Cool season grasses mature much slower and are higher in energy and protein, they are also lower in fiber.

Oxygen, Hydrogen and protein

- Grasses high in fiber, Summer growing, are much lower in energy and protein with much of the energy in the form of oil or fat which is lower in oxygen on a dry matter basis.
- We need to adjust for this and manage our grazing accordingly.

What happens in the rumen ?



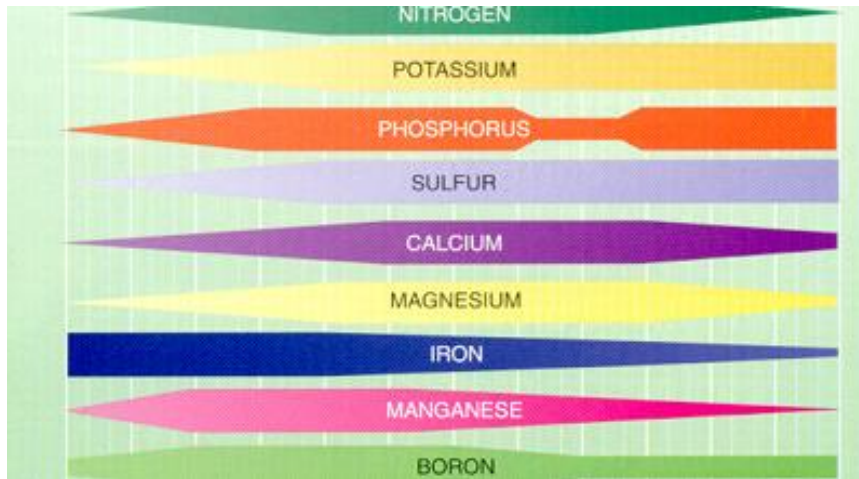
The liver and kidneys are the filters of the system

- We need the protein to be used as a source of amino acids and not as a energy source.
- When protein is de aminized by bacteria trying to get the energy in the carbohydrate part (energy) of the amino acid, ammonia which is a gas will be released. It is this grass which leads to frothy bloat.
- This increases the ph of the whole system and lowers absorption efficiency of nutrients.

Importance of ph in the animal

- A neutral ph leads to better efficiency and reproduction of desirable microorganisms in the rumen.
- At a high ph, minerals are less available through the digestive system.
- Water ph can also affect the rumen ph.

Ph effect on the mineral availability



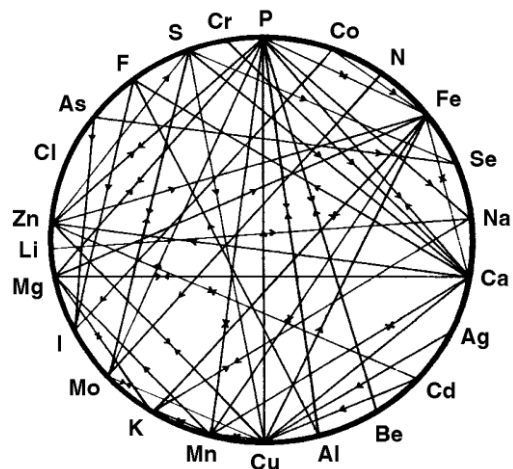
Necessary conditions for a bacteria culture to develop

- Food for the specific bacteria
- That the specific bacteria be present
- Moisture
- Correct temperature
- CORRECT PH

Mineral ratios

- Each mineral needs to maintain a correct ratio in relation to other minerals as an excess of one can create deficiencies in other. Example:
- Calcium: Phosphorous
- Potassium: Sodium
- Iron : Copper, etc...
- Different water sources require different minerals to compensate
- Different paddocks and different forages will require different minerals and mixes of minerals to be correct.

Mineral ratios



Cafeteria style minerals

- In my experience they are the most efficient to :
- Allow for the correct ratios of the different minerals in the animal.
- Compensate for changes in diet or water sources.
- Mineralize the soil with what is lacking.

Free choice style mineral box



Well mineralized cattle at uhdg on sandy leached soils.



Protein supplementation

- When protein is lacking (less than 7-8 % of the dry matter in the diet) we have the option of offering a protein supplement (without starch) to help rumen microorganisms to digest the fiber portion.
- The higher the fiber of said forage the more important protein supplementation becomes as the animal is limited on it's intake by the high fiber.

Practical way to supplement 450 animals



Cows can eat in excess up to 40 % without gaining more

- Adult cows can over eat (when fiber content of the forage is not very high) to compensate for a deficiency or to dilute an excess
- Younger animals have less capacity to over eat.
- When forage is scarce or expensive (drought or Winter) it makes sense to use it efficiently and not waste it.
- This can be observed in the manure, gets bigger.

Supplementation

- When we see the dung getting bigger and the cow getting smaller (losing body condition)
- Supplementing means enhancing the rumen function and not the substituting of forage.
- By observing the manure and the urine ph we can avoid problems and thus enhance our animals performance.
- Corner Post as a way to use less hay/stockpile or get better individual performance.

Not enough protein Montana



Next day after feeding 6 # of two year old alfalfa hay



Supplementing the herd



The more efficient the harvest, the more important the mineral program becomes



Before harvest



A mineral program that gives results is required as harvest efficiency increases



Good body condition in Fall with calves on their side



Monitoring

- It is essential to monitor the animal, with a lab to know if the mineral program is working as it should
- Monitor and then adjust accordingly
- An excess is worse than a deficiency as it will affect other minerals. Example : an Iron excess will create a Copper deficiency