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Biological Farming Roundtable September Notes

What: The Biological Farming Roundtable was held at the NutriSoil Production and Education Facility on Thursday the 24th September 2015.

Why: The aim of the Biological Farming Roundtable is to use papers/articles written by leading biological thinkers to initiate discussion and to help farmers learn and apply the information on farm.

Who: This Roundtable discussion was based on the article: "**Improve Soil Health with Mob Grazing**" by Tamara Scully - Article from ACRES USA June 2014

Summary of Article

Farming Journey, Neil Dennis, Saskatchewan grazier

- Pastures are thriving with over 40 types of native plants, none of which were ever seeded.
- High plant density, water is retained, carbon content (rose from 2% to 10%) and microbial diversity increased.
- Soil warms up earlier in the spring, stays cool in summer and produces well into the fall.
- Mineral supplementation reduced.
- Per acre production rises.
- Farm work decreases.
- Was rotationally grazing 300 head of beef cattle.
- Attended a Holistic Management Conference - didn't believe what the speakers were saying and then attempted to disprove theories of managing the land by working with nature and increasing soil health via animal interactions.



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Experiments

- Spreading seed on top of the ground at .5kg per acre, using the cattle to trample it in, generated fantastic results.
- Previously unproductive pastures, filled with weeds, benefitted from 100 cow/calf pairs per 20 acres – “all this stuff started to pop up.”
- Pastures treated with conventional practices of seeding and combining were sprouting weeds and falling prey to dry weather.
- Intensively managed grazing paddocks no longer required seeding and were lush and green.

Lessons Learnt

- There isn't one recipe for success.
- Graze when the plants have 15-18 leaves, but no seed heads, increases photosynthesis.
- Not all plant parts are as nutritious or palatable.
- Plan grazing for just before the plant is about to flower, it has increased sugar.
- Longer rests gives the plants more time to develop an extensive root system, increasing microbial activity.
- When animals graze plants, the roots release a flush of exudates which feed the soil microbes.
- Grazing high and having longer rest periods keeps both animals and plants thriving.
- First started with a 30-60 day rest – but still cattle would not graze much of the pasture. They won't eat where they can still smell urine.
- Increased rest period to a minimum of 80 days rest, the cows grazed everything. (2 and ½ months).
- This also helps to break the parasite cycle.
- Increased trampling action of the herd keeps a mulch base on the soil – this retains the soil moisture and has a cooling effect on the soil – keeps the microbes thriving.
- Grazing forages high and utilising high density stocking, a healthy litter cover can develop.
- Stays greener longer throughout the year due to temperature moderation.
- Herd mentality – animals more apt to eat everything when they feel they are competing with their neighbour for the forage. Helps prevent selective overgrazing.
- When preferred plants are grazed at the expense of less palatable species they are put under stress, which allows the non-grazed plants an advantage. Non selective grazing helps to eliminate weeds.



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Numbers

- Started a trial of two x 10 acre paddocks – one holistically managed the other conventional.
- Started with 200-300 head of cattle on 1170 acres to 800-1000 cattle on 1170 acres. 4 acres per cow to 1 acre per cow.
- Don't go with one stocking rate. You have to bounce all over the place – Read the land.
- Uses all his land now for permanent pasture, prefers to buy in his hay. Needs no equipment.
- 54,500kg animal weight per acre in one paddock (78 x 700kg cows)
272,000kg animal weight per acre in one paddock (388 x 700kg cows)
- Brix level increased where the mob was heavier – this brix persisted over 5 years even though the higher density was only for one grazing episode.

Creative grazing

Deep Massage

Bale grazing them in the field by rolling out the bales and skipping a row alternatively. Does not use hay holders. Rolls the skipped spots. Pasture is then rested for 120 days (4 months) – much greater plant density and diversity the next season. Continues this practice on a new section of land every year.

Skim Grazing

Only graze 40% of the plant top growth can allow for a second graze.

Fencing

Automatic solar operated Batt Latch

<http://www.novel.co.nz/product/356247>

Drive through electric gates

https://www.youtube.com/watch?v=L1crD3_KgOg

Bungee Cord Gates

Alleyways to water are 28 feet wide, allow you to skip paddocks in the rotation if you need.





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Record Keeping & Shared Learning

- Keeping good records is one of the most important steps to successful grazing management.
- Importance of regularly meeting with other holistic management farmers.

Key Roundtable Discussion Points

- It doesn't matter or it's not worth getting caught up with the numbers, as it's the principals that we can take away from Neil's experience.
- Spreading seed by trampling is a great idea.
- All-over grazing could be improved by sweetening pasture with a biological stimulant that increases the brix. This is particularly important early days in adopting the system, but ultimately the pasture should remain at higher brix when the whole system is working.
- Grazing at height had been a problem for one participant with sheep ending up malnourished. This highlighted the risk of following these practices without getting the whole system performing. Maybe the higher grass wasn't adequately dense in minerals.
- You need to develop rest and grazing periods according to your land, environmental factors and recovery rate.
- Discussed potential to manage grazing so that you don't need to buy in hay. Better not to cut your paddocks for hay though.
- Brilliant idea to roll out the bales and have skipped section so animals can trample the debris of old hay in while grazing on the newly laid hay.
- Skim grazing also referred to as pulse grazing or just lightly grazing was a great way to get further grazes in a season.
- Fencing and gate systems could be researched individually.
- This Biological Farming Roundtable was a good form of regular meeting of like-minded farmers striving to improve their farms utilising good methods and principals to support soil health as the holistic management groups are doing.
- Record keeping is something to discuss further in the future.