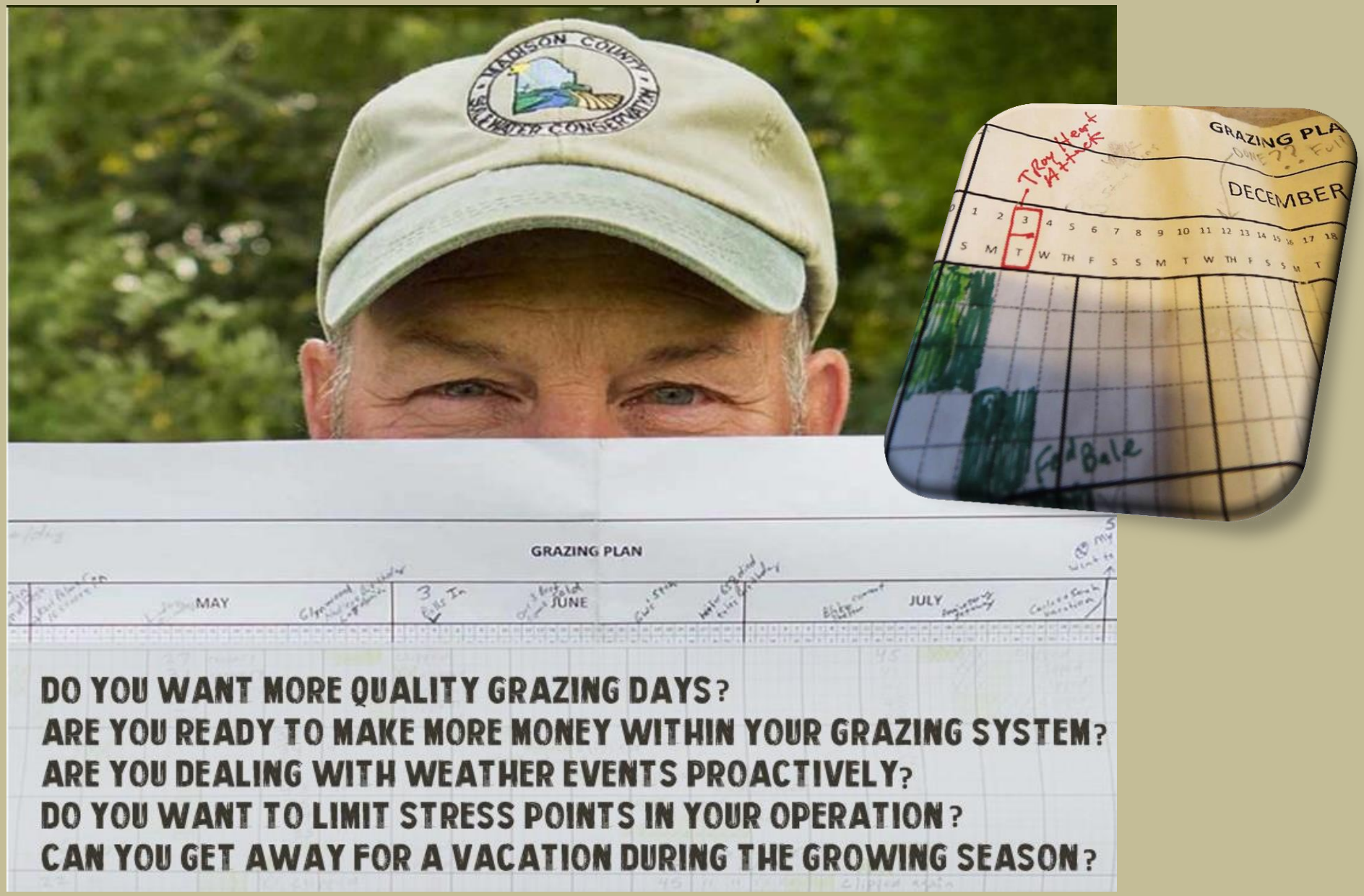
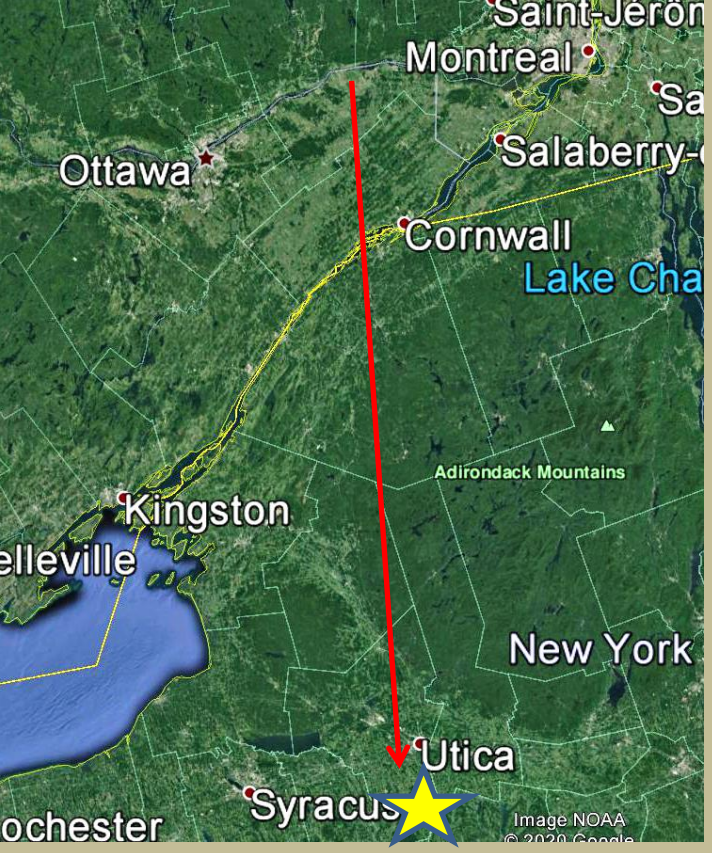
Using a Grazing Chart to Get What You Want

By Troy Bishopp aka the grass whisperer

Why Consider Using a Grazing Chart?

A True Story





Troy Bishopp
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Bishopp Family Farm
Custom Grazing Operation
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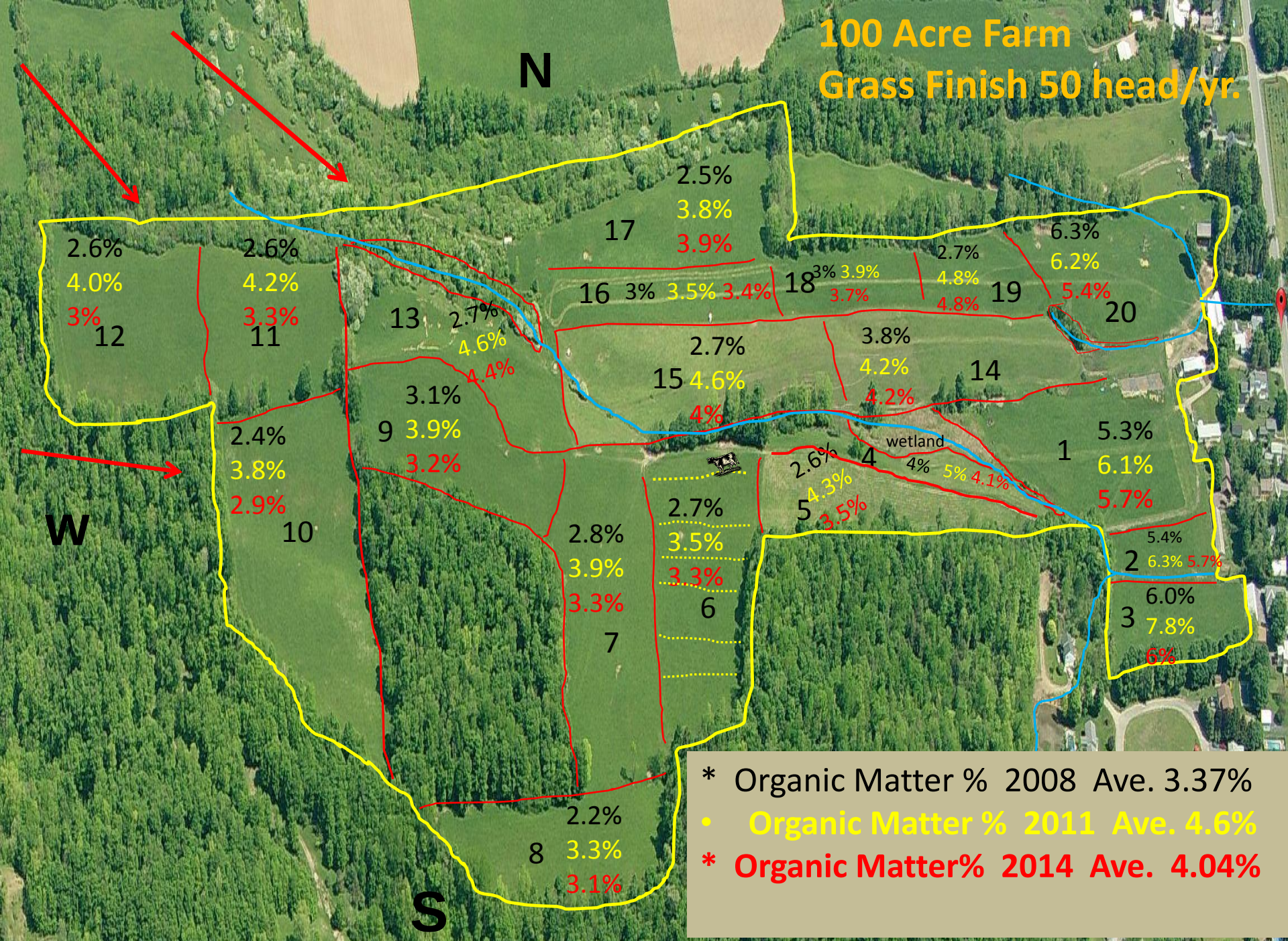
Our Context

"We strive for a stress-free life. We want our topsoil covered by diverse pastures harvested by animals, thus recycling solar energy and activating biological life to provide a sustainable profit.
We want to regenerate our community with local food.
We want to create a savannah for wildlife.
We want to create a place for the next generation to thrive."


100 Acre Farm
Grass Finish 50 head/yr.
N
W
S
12
2.6%
4.0%
3%
11
2.6%
4.2%
3.3%
10
2.4%
3.8%
2.9%
13
2.7%
4.6%
4.4%
9
3.1%
3.9%
3.2%
17
2.5%
3.8%
3.9%
16
3%
3.5%
3.4%
18
3%
3.9%
3.7%
19
2.7%
4.8%
4.8%
20
6.3%
6.2%
5.4%
15
2.7%
4.6%
4%
14
3.8%
4.2%
4.2%
wetland
4%
5%
4.1%
4
2.6%
4.3%
3.5%
5
1
5.3%
6.1%
5.7%
2
5.4%
6.3%
5.7%
3
6.0%
7.8%
6%
6
2.7%
3.5%
3.3%
7
2.8%
3.9%
3.3%
8
2.2%
3.3%
3.1%
* Organic Matter % 2008 Ave. 3.37%
• Organic Matter % 2011 Ave. 4.6%
* Organic Matter% 2014 Ave. 4.04%

Crop/Grazing Planning Chart Set-up, Keys, Questions, Considerations and Decision Points

* Set Goals: What are you doing and why are you doing it? Financial, environmental & family(community)objectives
* Look to conservation plan to delineate field and paddock acreages; record field numbers; get a good map
* Consult nutrient management plan, soil test or biological monitoring chart to assess fertility levels
* What are the species, weight and number grazing?
* What are the daily dry matter requirements?
* One herd, multi-herd, multi-species, leader-follower?
* Estimate forage production per acre?
* Estimate paddocks and number of acres needed
* Paddock time, density and recovery periods you want
* Employing grazing impact strategies to certain fields?
* What is your average killing frost date?
* What is your typical grazing start date?
* What is your general stockpiling timeframe?
* Is a bird fledging date important to you?
* What fields are being deferred for haying or emergencies?
* When are you birthing, breeding? What fields?
* How are you adjusting to animal bodyweight increases?
* Typical drought prone times? Pugging times?
* What paddocks are used for sacrifice or emergencies?
* When are you planning a vacation, 4-H trip, concerts, etc?
* Do you have hunting season timeframes?
* What paddocks may you want to winter on?
* What fields may need renovation, frost-seeding etc.
* Any fields weaken by armyworms, overgrazing etc.
* Move animals off farm for crop residue
* Silvo-pasturing opportunities on the farm?
* What are your wildlife needs?
* Track rainfall, temperatures, snowfall
* Graze riparian areas when or if?
* Infrastructure or conservation construction projects?
* Tree planting? Hedgerow building?
*
*

Critical Decision Points

* Haying when and how much
* Clipping?
* When to supplement when things go awry
* Vacation
* Processing times and loading out animals
* Drought recognition timing
* When to pull animals off pasture
*
*
*
*

Weak Links, Bottlenecks

* Infrastructure
* Labor
* Capital
* Time to manage
*
*
*
*
*
*
*
*
*

With grazing, there are plenty of things to think about

“The object of grazing is to grow so much forage you lose track of what to do with it all.”

I Asked What Top Grazing Managers Use To Be Awesome?

Their brain, eyes, hands and legs

A grazing decision-making planning & monitoring tool

Soil and Fertility data

A yardstick

Regular walks around the farm

A napkin *(for figuring)*

Portable fencing

A what-if attitude

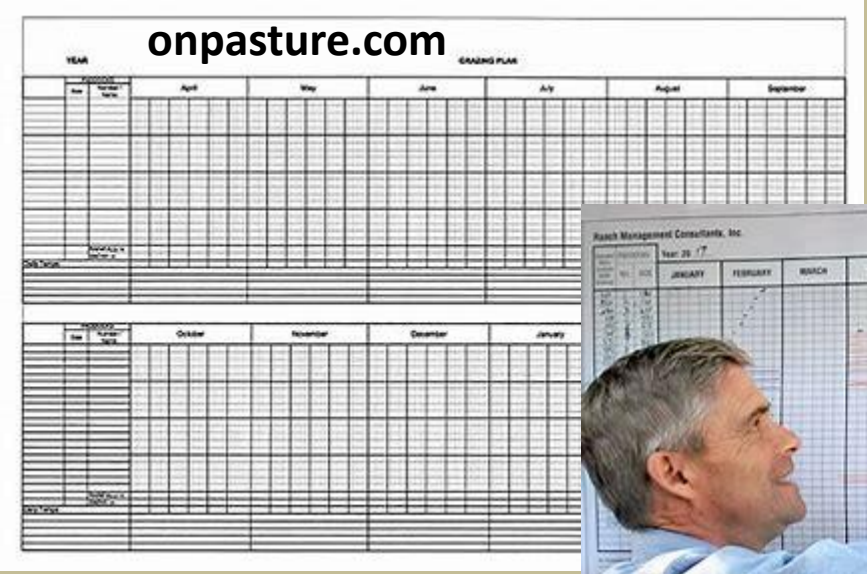
Mentors

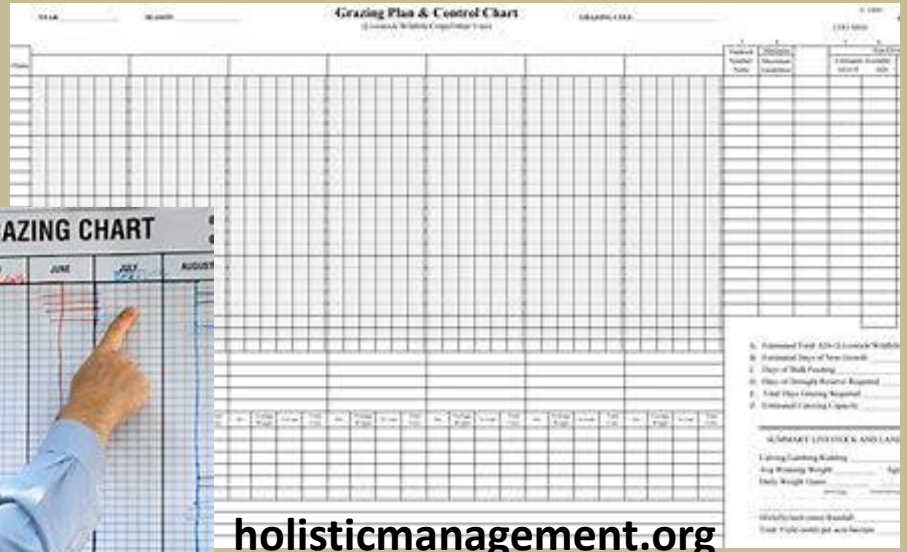
“The reason for a grazing plan is because grass does not grow at the same rate every day of the year, nor does animal consumption rate stay the same. If you don’t have a plan for where you are going it is very hard to bring that supply and demand into balance.”

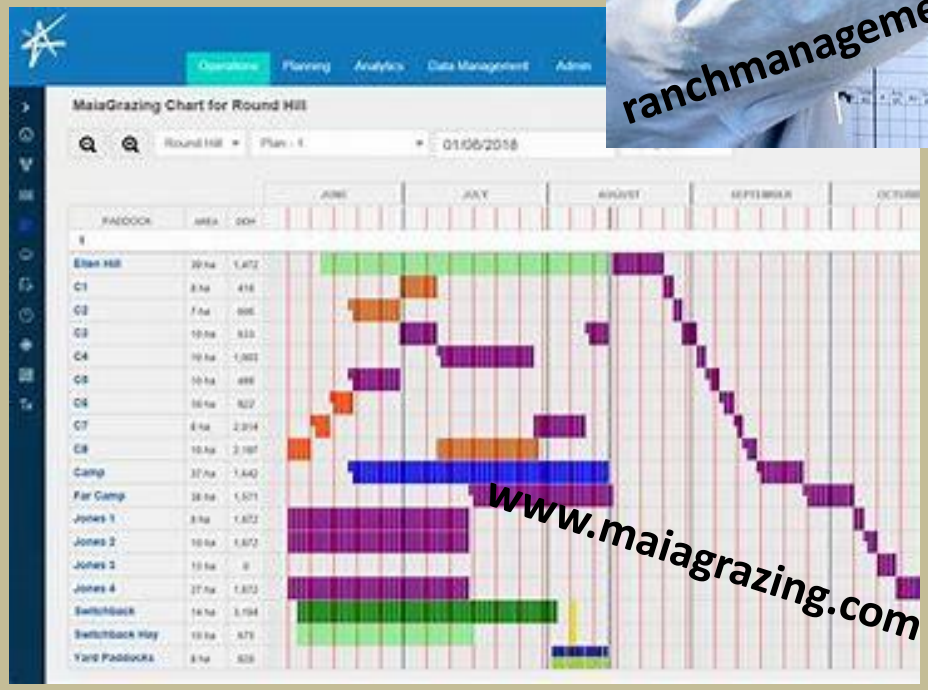
“Imbalance leads to inefficiency building into the rest of the system and unnecessary economical and emotional stresses for producers. To balance supply and demand grazing managers must use a variable stocking rate throughout the year (i.e. don’t have the same number of animals on the place month after month).

An increase in costs and decrease in income is very often the outcome of not having a grazing plan,” ~ Jim Gerrish, Grazing Consultant

We have the Templates







Rationing Grass

Know your supply & demand.

- Cut current paddocks in half with polywire
- Calculate a paddock size
- *Rotate based on the grass and cattle not time*
- ***Acres per paddock =***

$$\frac{\text{Animal Weight} \times 0.03 \times \text{Number of Head} \times \text{Days on Paddock}}{\text{Inches} \times \text{pounds of forage/ac inch} \times \text{grazing efficiency}}$$

Example: Given: 30- 1,000 lb cows, graze 3 days on 8" good grass

$$\frac{1000 \text{ lb} \times 0.03 \times 30 \times 3}{8'' \times 300 \text{ lb forage/ac inch} \times 0.50}$$

$$\frac{2700}{1200} = 2.25 \text{ acres}$$

Trial and Error

How long will your grass last?

Herd days per paddock =

$$\frac{\text{Inches} \times \text{pounds of forage/ac inch} \times \text{acres} \times \text{grazing efficiency}}{\text{Animal Weight} \times 0.03 \times \text{Number of Head}}$$

Example: Given 8" tall good grass, 10 acre field, 30- 1000 lb cows

$$\frac{8'' \times 300 \text{ lb forage/ac inch} \times 10 \text{ ac} \times 0.50}{1000 \text{ lb} \times 0.03 \times 30}$$

$$\frac{12{,}000}{900} = \quad 13 \text{ days grazing}$$

Courtesy of Greg Brann--Greg Brann Consulting gregbrann5@gmail.com 615-351-2533

2020-21 Grazing Season

DRAFT PLAN adapted and modified from *NATURAL RESOURCES CONSERVATION SERVICE SYRACUSE, NEW YORK*

PRESCRIBED GRAZING MANAGEMENT PLANNING WORKSHEET

LANDOWNERS NAME Bishopp Farm DATE 2020

STEP 1a. Estimate the Forage Demand:
The forage demand is the amount of forage dry matter (DM) required to feed a group of livestock for one day. It is calculated based on the rule of thumb that grazing animals require an amount of forage DM equal to about 2.5 to 3.0% of their bodyweight per day. For lactating animals and growing stock use 3.0% of bodyweight. For all other classes of livestock use 2.5%.

1 800lb. Beef finishers (Average Weight/Animal) X .025 or .03 = 24 (Lbs DM/Head/Day) X 40 (# of Animals) = 960 DM (Forage Demand)

2 _____ X .025 or .03 = _____ X _____ = _____

Unadjusted Daily Forage Demand _____ Lbs/Dm/Day

Step 1b. Adjust Daily Forage Demand as a result of supplemental feed use by deducting the pounds of supplemental feeds from the daily forage demand.

If supplemental forages are provided, they are substituted on a pound for pound basis. If supplemental grain is fed, the substitution rate is one pound of grain equals .5 pounds of forage.

Unadjusted Daily Forage Demand _____ – Lbs of supplemental feed _____ = _____ Lbs/DM/Day

Adjusted Daily Forage Demand _____ Lbs/DM/Day

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Step 3. Select Residency Period:

Residency Period 1 Days

*Note** One half to 1-day residency periods are recommended for lactating dairy cows. Residency periods of 2 to 7 days may be used for all other livestock. To maximize harvest efficiency, use shorter residency periods.*

Step 4. Determine Paddock Size by Major Soil Type:
Paddock size is based on meeting the forage demand of the livestock for the designated residency period.

	Forage Demand	+	Forage Supply	=	Acres Required/Day	X	Residency Period	=	Paddock Size (Ac)
1	960	+	1400	=	.7 acre	X	1	=	.7 acre/day
2		+		=		X		=	
3		+		=		X		=	
4		+		=		X		=	

Step 5. Determine the Number of Paddocks

20 days rest	+ 1 (Residency Period)	=		+ 1	=	21	(Number of Paddocks)
30 days rest	+	=		+ 1	=	31	(Number of Paddocks)
45 days rest	+	=		+ 1	=	46	(Number of Paddocks)
60 days rest	+	=		+ 1	=	61	(Number of Paddocks)
90 days rest	+	=		+ 1	=	91	(Number of Paddocks)

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Step 6. Estimate the Total Number of Acres Needed: Use the average paddock size of the most prevalent soil types to estimate

Paddock Size	X	Number of Paddocks	=	Acres Needed	
.7	X	21	=	15	for 20 days rest
.7	X	31	=	22	for 30 days rest
.7	X	46	=	32	for 45 days rest
.7	X	61	=	43	for 60 days rest
.7	X	91	=	64	for 90 days rest

Note: During spring and early summer, only about 40% to 60% of planned acres will be required for grazing. The remaining grazing acres could be mechanically harvested, planned to be grazed by another class/group of livestock, clipped, deferred for wildlife habitat or stockpiled for extended grazing depending on the goals of the family.

Step 7. Determine the Number of Actual Acres Planned:

	Pad Size/		Ac. Needed/day	=	# Days available
1	3			=	4
2	2			=	3
3	2	X		=	3
4	5		.7 acre	=	6
5	4			=	5
6	5			=	6
7	5	X		=	6
8	4			=	4
9	5			=	6
10	7			=	6
11	5	X		=	5
12	5			=	5
13	5			=	5
14	7	X	.7 acre	=	7
15	5			=	5
16	5			=	5
17	5	X		=	5
18	5			=	5
19	5			=	5
20	5	X		=	5

Total actual Acres **94** Total # days rest **96** **SEE GRAZING CHART**

What's Your Monitoring Regime?

Daily?

Weekly?

Monthly?

Whenever you feel like it?

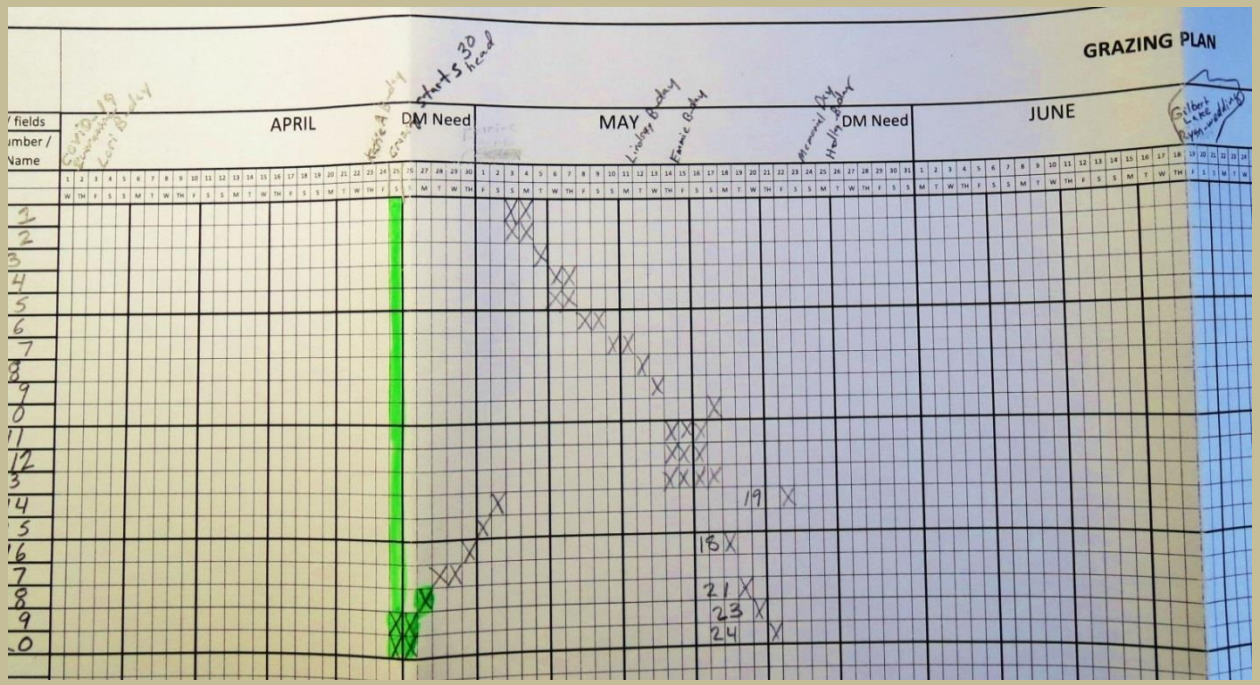
Can you plan out your grazing management strategy from your observations?

Are you even comfortable proactively managing forage inventory?

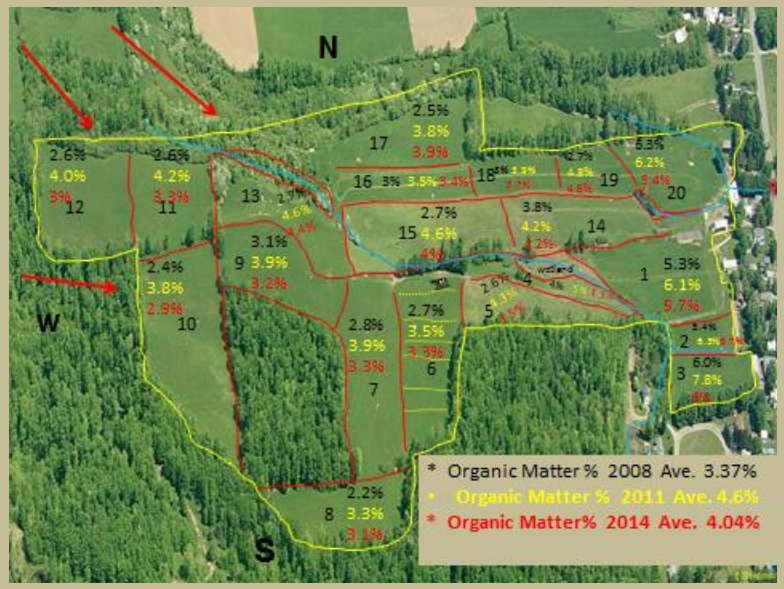
How far into the future can you make a management decision?

Is a team dynamic/mentor needed for confidence?

A much increased sense of peace of mind on the part of the grazier. You can see your feed bank out ahead of you and by measuring the grass's regrowth, can make buying and selling decisions far in advance of the actual "crunch." ~ Keith Milligan, New Zealand



Map & Plan



Measure & Monitor

Create Flowchart

Observe & Implement

4-8-2020 Made a video on what is happening and developed grazing plan

April 15th Will it stop snowing and warm up?

April 21st NOPE!!!!!!!!!

May 3rd Grazing is planned for 5-5

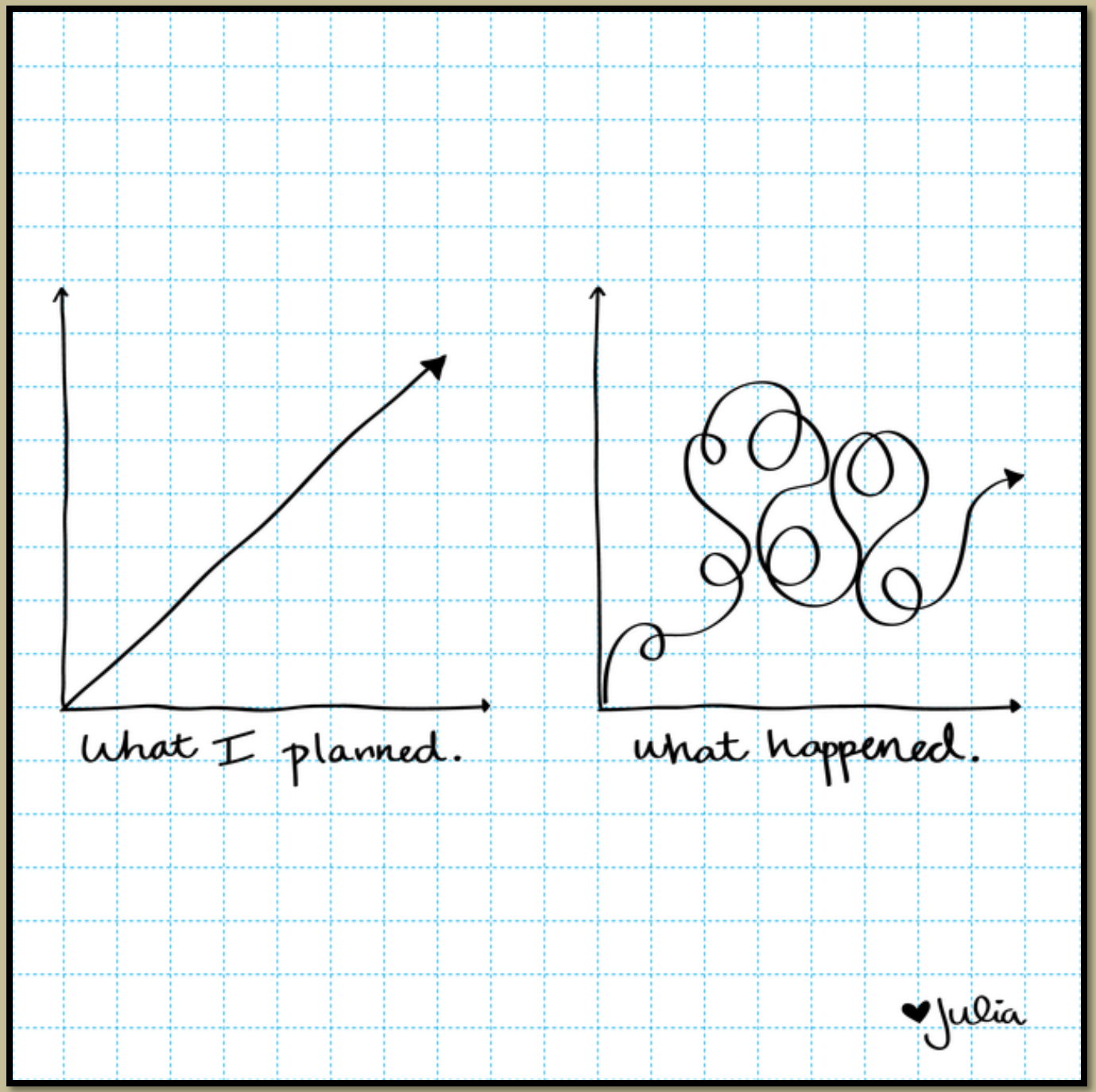
May 5 & 6th Grazed paddock- Some plants bitten some not
Grazing sticks become cattle rubs!

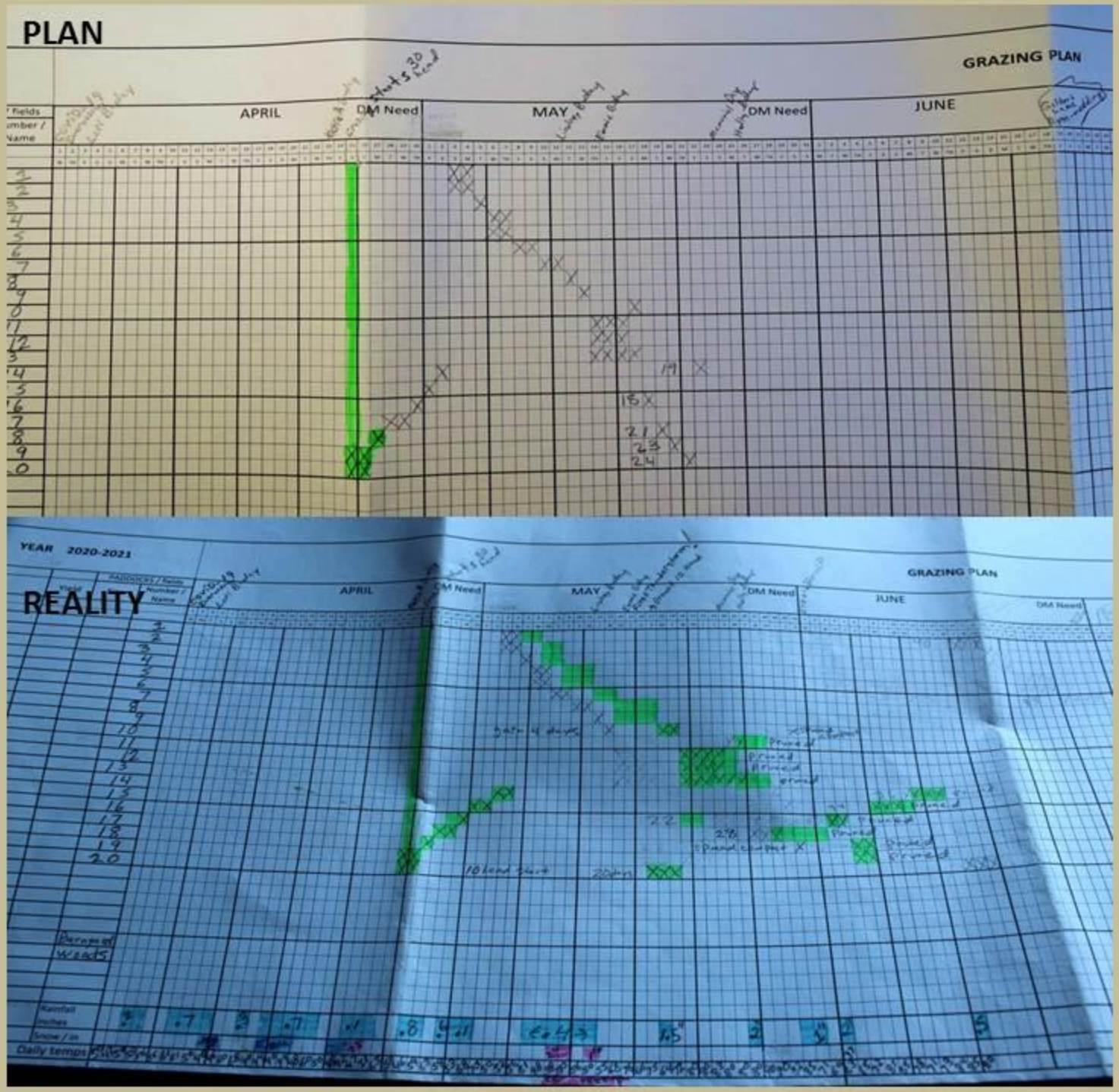
May 12th heavy frost and snow

June 6th

June 16th Grass-finishing cattle return after 40 days (the plan was 25 days but cold weather concerns, dryness followed by a burst of heat, moisture and growth leads to adaptive changes and the opportunity to build more resilient plant, soil and animal systems. Now on to "trample trials"!

40 day recovery


What I planned.
what happened.
♥Julia



The grazing plan seemed solid given the weather concerns and early grass signals. Our plan is to invest in the soil and plant health and high animal performance AND for getting more quality grazing days into fall and winter. Camping days are important too! You'll notice we are pruning with a mower set at 7" after trampling. The rain infrequencies have a role in future decision-making. Monitoring, adapting and learning are critical.

Second Rotation

July 8th

July 20th

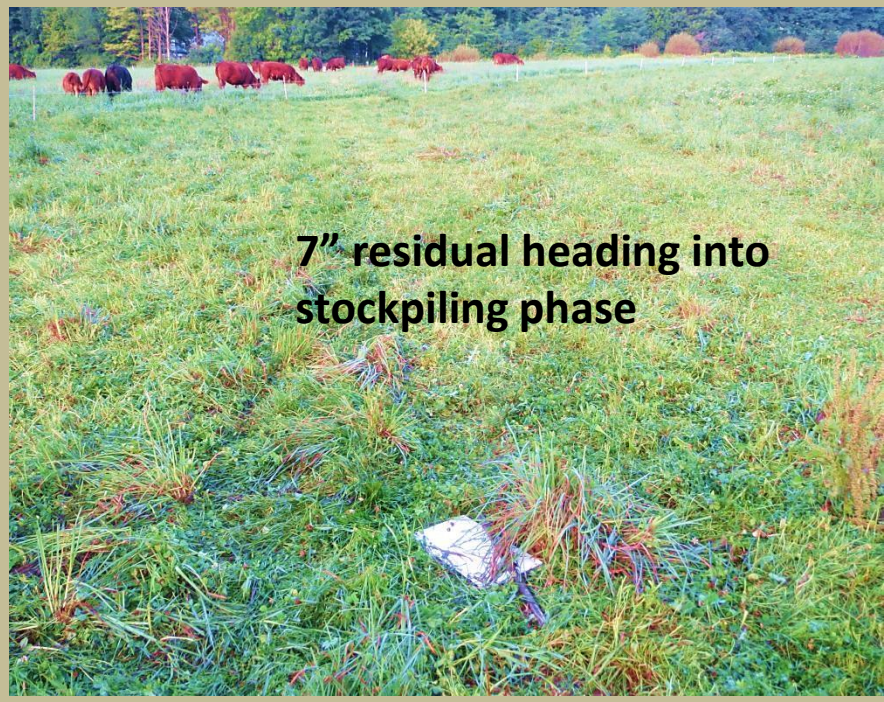
July 8th

July 20th

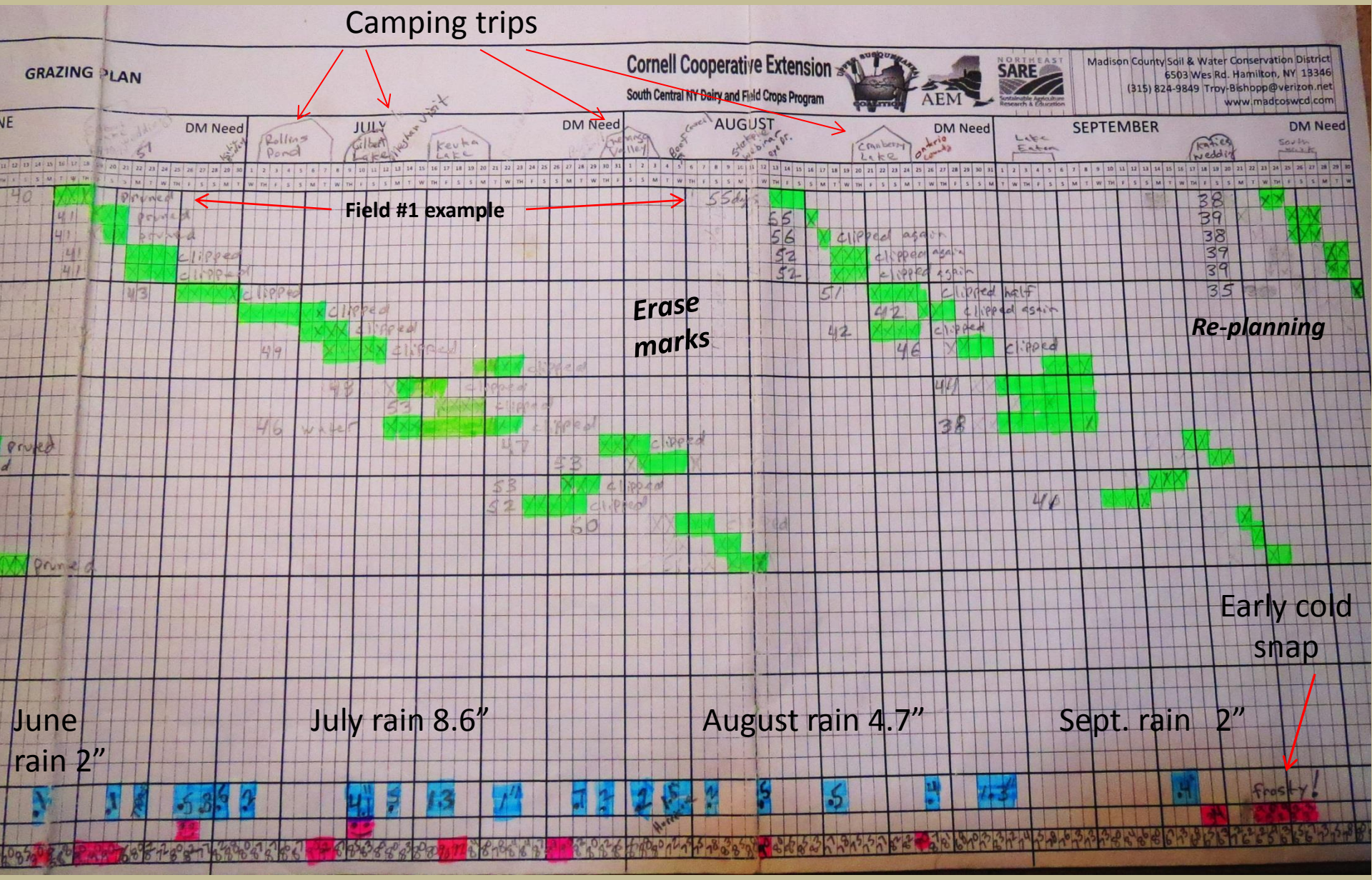
Third Rotation
August 14th 55 days recovery

7” residual

August 14th 55 days recovery


7” residual heading into stockpiling phase

Grazing Chart Progression ** Plan in Pencil (cause you'll need to erase) Green is Actual



Augment plan around wedding

38 day recovery September 23rd (4th Rotation)

Field #1 Final Graze October 24th 26 days recovery

2020-2021

GRAZING PLAN

PADDOCKS / fields

Size	Number / Name
	1
	2
	3
	4
	5
	6
	7
	8
	9
	10
	11
	12
	13
	14
	15
	16
	17
	18
	19
	20

OCTOBER — DM Need — NOVEMBER — DM Need — DECEMBER

Canadian Zoom webinar

Plan in place since October 1st still going strong

Rainfall inches

snow / in

Daily temps

10/24 → took 5 fats, 2 cows + calf (8)

Get more Grazing Chart Background Here:

https://www.canadiancattlemen.ca/features/the-grazing-chart/

https://onpasture.com/2020/01/13/how-a-grazing-plan-prevented-a-wreck/

https://onpasture.com/2019/07/29/the-inventory-walk/

https://onpasture.com/2019/03/04/more-grazing-days-more-camping-days-plan-for-it-with-your-free-grazing-chart/

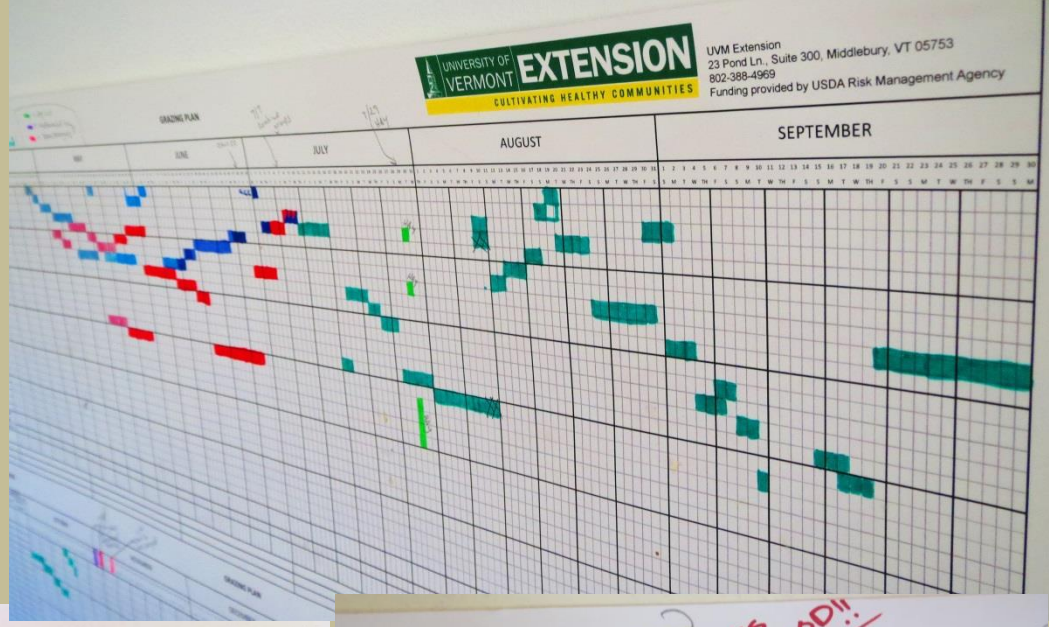
https://onpasture.com/2017/01/02/troy-bishopps-free-grazing-chart-makes-the-difference-in-drought/

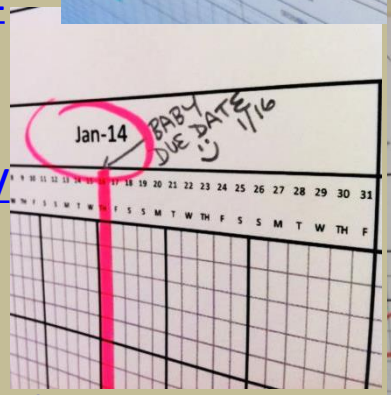
https://onpasture.com/2018/09/10/can-you-be-a-grazing-soothsayer/

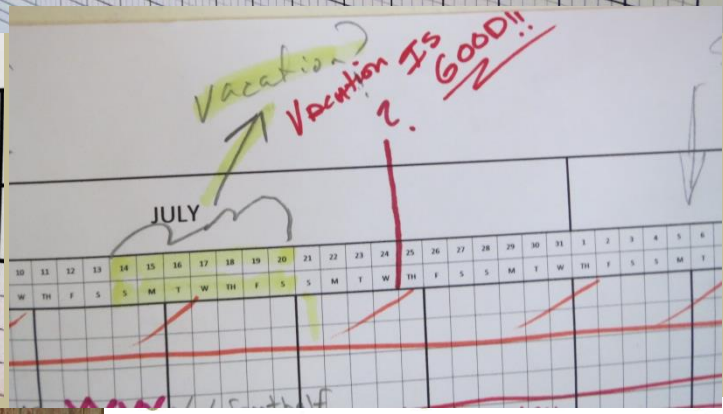
https://onpasture.com/2017/03/27/im-sorry-i-missed-your-drought-party/

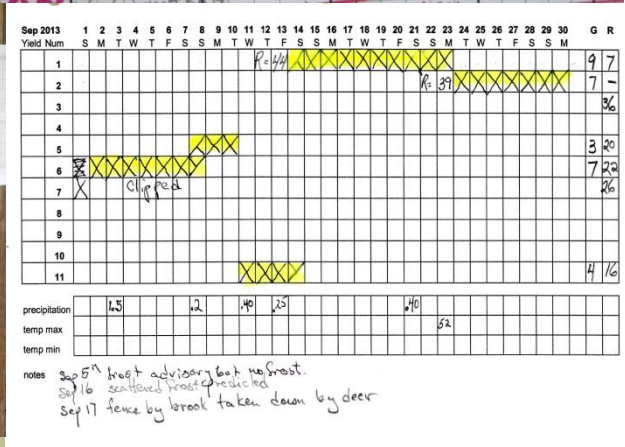
https://smallfarms.cornell.edu/2013/01/a-four-dollar-grazing-chart/

https://www.rcsaustralia.com.au/decisions-from-my-grazing-chart/









Hope you gained some insight today

Thank you for your time

Questions? Farmboytb@aol.com