Best Nutrition Strategies during times of High Feed and High Input Costs

2023 Vermont Organic Dairy
Producers Conference
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Shrinking Margins

	2020	2021	2022
Organic milk	**$31/cwt**	**$33/cwt**	**$32/cwt**
Organic Corn meal	$450	$565	$525
Organic Soy meal	$1,200	$1,700	$1,900
Org Complete Feed	$570	$700	$750

2023 – March Better margins

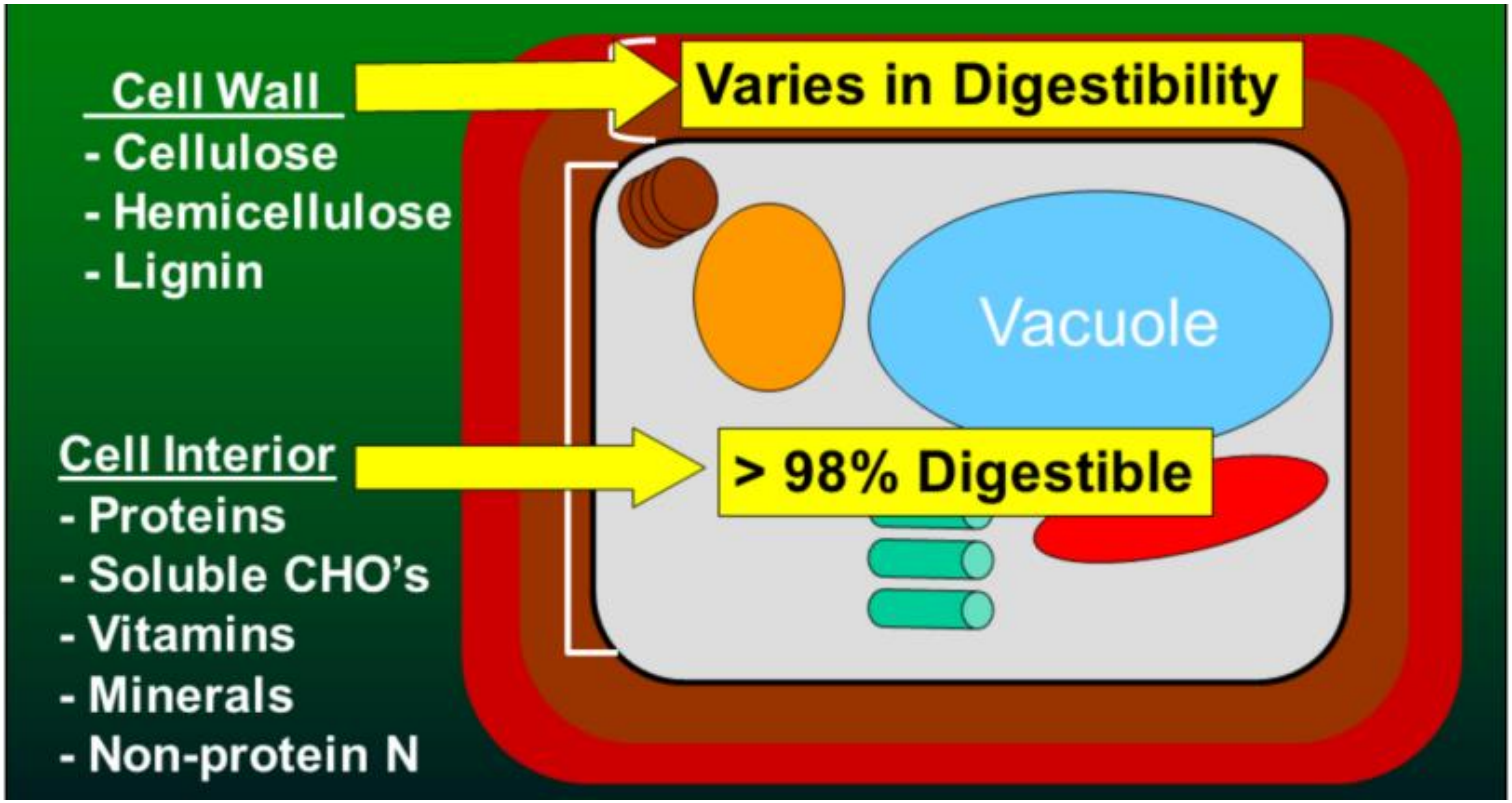
Organic Milk	$30/cwt
Organic Corn meal	$500/ton
Organic Soybean meal	$1,200/ton, $900/ton July
Org Complete Feed	$700/ton

How can I manage these high feed costs?

1. Forage Quality
2. Higher Production Peaks
3. Grouping Cows
4. Dry Cow Management
5. Grain Storage
6. Minerals
7. Water
8. Breeding

Forage Quality- Energy

Soluble carbs-sugars & Digestible fiber



Utilize your pasture to the fullest

- Early Start, Late Finish
- Interrupted Season
  - Summer annuals
  - Cool season annuals
  - Stockpiling
  - Supplementing off-pasture
  - Custom grazing some groups
- Targeted paddocks- anybody do this?

Stored Forage Quality Targets

Protein	14-16%
Fiber digestibility	>60% NDFd 30-hr
Sugar	>10% ESC
Dry matter	45-60% baleage 35-50% haylage
Fermentation VFAs	
Lactic	>5%
Acetic	<2.5%
Butyric	0%

Key Management Obstacles

- The crop
  - Time of mowing,1st crop May 10-20th
  - Equipment
  - Labor
  - Wilting speed
  - Bale Processor
  - Inoculant
  - Storage


KUHN
GMD 3151 TL
25
mile/h
KUHN


PÖTTINGER
HIT 610N


Vermeer
404PRO
Silage


CAUTION


SP-1

Large squares on pallets

Key Field Input Obstacles $$

- The soil
  - Nitrogen
    - Manure
    - Chicken litter
    - Fish Nitrogen
    - Feather meal
    - Chilean Nitrate
  - pH
    - Liming
    - Wood Ash

What is out in the field?

- Is the soil fertility adequate?
  - 92% of organic fields in NMPs in 2016 were not meeting N needs of the crop
  - 75% are below optimum pH(6.2-6.8), especially for legumes
  - 56% were low (0-50 ppm) in K

	N	K
Grass (<30% legume)	150	100
40% legume	40	180

Legume content			
	0-20%	21-50%	>50%
% of fields	57.9	34.7	7.4

Nitrogen treatment	DM yield tons ac^{-1}
Urea	1.25
Grass-legume mix	1.28
Grass alone	0.607

What can I raise? How can I improve it? How should I store it?

Grass
- late maturing orchardgrass
- meadow fescue

Legumes
- red clover
- alfalfa
- trefoil

Summer Annuals
- forage oats
- sorghum sudan

Cover crops
- triticale
- winter wheat

How can I improve the forage?

What I raise? **High digestibility**

- High ranking grass for NDFD 30hr

How I store it? **Good fermentation**

- Baleage
- Haylage
- Dry Hay

How I feed it? **Maximize feed intake**

- Manger
- Ring Feeder
- Fence line/ground

Will I have enough? **Should I buy feed?**

Higher Production Peaks

- The first 100 days have the highest margin over feed costs
- Can manage fewer cows with more milk per cow
- Sell quota levels, and a little more
- Grain fed per cwt is less
- Allows for scheduled dry off

Dairy Farmers of America

012 - Milk,BF,TP,DIM,Name,Lact,Grp,Age,TD1Dim,TD1Milk

Ref:03-07 /C,04,02,02

Curr T.D. Milk	Curr T.D. %Fat	Curr T.D. %Prt	DIM Last T.D.	Barn Name	Lct No.	G R P	Ref Age Mth	Prev T.D. Milk	TD 1 DIM	TD 1 Mlk	Curr T.D. FCM
67.3	5.6	3.2	108	1849	3	2	58	67.9	15	74	90
66.9	5.2	3.2	78	1770	4	2	70	51.0	14	81	85
62.4	6.6	3.8	108	1748	5	2	77	46.6	15	44	94
62.2	4.5	2.9	89	1731	5	2	78	46.4	25	77	72
60.3	5.6	3.4	71	1875	3	2	54	53.3	7	49	81
57.2	6.6	3.2	73	1952	2	2	41	46.2	9	63	86
55.7	4.9	3.4	160	1735	5	2	78	37.6	6	48	68
55.7	4.9	3.8	159	1934	2	2	42	28.1	5	41	68
55.6	4.9	3.4	145	2024	1	2	29	37.5	19	54	68
55.1	5.6	3.8	105	1833	4	2	64	48.9	12	61	74
55.0	5.7	3.4	94	1935	2	2	42	46.4	30	53	75
54.6	4.8	3.7	162	LARISSA	3	2	59	37.7	8	41	66
53.8	4.9	3.4	94	GLOWORM	3	2	52	46.4	1	TF	66
53.3	5.1	3.6	155	1785	4	2	70	32.8	29	36	67
53.3	4.9	3.4	159	1918	2	2	46	43.6	5	22	65
53.0	6.1	3.2	130	1957	2	2	41	37.3	4	TF	75
52.8	4.5	3.5	116	1932	2	2	42	37.2	23	32	61
52.7	5.9	3.7	109	1683	6	2	90	51.3	16	65	73
52.6	5.1	3.4	94	1729	4	2	78	55.9	1	TF	66
52.6	5.2	3.2	93	1866	3	2	54	55.9	29	63	67
50.9	4.9	3.5	162	1970	1	2	34	47.1	8	50	62
50.8	5.7	3.8	155	VERNA	6	2	95	43.5	1	TF	69
50.8	5.5	3.4	149	ROXIE	5	2	81	35.2	23	52	67
50.8	6.9	3.9	152	1794	4	2	69	37.6	26	57	79
50.8	5.9	3.7	154	1858	3	2	57	35.2	28	38	71
50.8	5.7	4.0	152	1936	2	2	42	42.3	26	48	69
50.8	5.4	3.4	154	1997	1	2	33	39.9	28	52	66
50.6	5.7	3.7	136	1830	4	2	64	37.4	10	58	69
50.5	5.3	3.4	129	1631	7	2	105	51.5	3	TF	65
50.5	4.4	3.7	121	1765	4	2	71	37.2	28	54	58
50.5	5.7	3.7	129	1845	3	2	58	39.7	3	TF	69
50.3	6.1	3.8	107	1851	3	2	58	37.1	14	54	72
50.2	5.2	3.5	98	1724	5	2	78	29.9	5	57	64
49.6	5.8	3.4	153	RAZZLEP	7	2	105	42.3	27	59	68
48.4	5.8	3.9	155	1721	5	2	80	32.8	29	38	66
48.4	7.5	4.0	153	1827	4	2	64	32.8	27	45	80
48.4	5.1	3.9	153	1874	3	2	54	28.1	27	21	61
48.4	5.7	3.8	158	1938	2	2	41	38.8	4	TF	66
48.3	5.2	3.8	142	1865	3	2	54	30.3	16	62	62
48.3	4.5	3.6	146	1902	3	2	54	37.5	20	69	56
48.0	5.0	3.8	120	1877	3	2	53	43.1	27	47	60
48.0	5.5	3.1	114	1880	3	2	53	37.2	21	60	64
47.9	6.0	3.6	107	1893	3	2	53	41.8	14	69	67
47.5	5.3	3.7	78	1867	3	2	54	46.3	14	44	61
46.0	5.9	4.1	157	1726	5	2	78	38.8	3	TF	64
45.8	5.2	3.7	134	1805	4	2	66	46.8	8	39	58



Grouping Cows

Dry Cow Management

Far Cows

- 1- 25 days dry
  - Hay, at least 5lbs/hd/day
  - Good grass pasture, baleage, or hay ad lib
  - DC Mineral

Close up

- 25-50 days dry
  - Hay, at least 5lbs/hd/day
  - Excellent grass pasture, baleage, or hay ad lib
  - Roasted Soybeans, rolled, 2lbs/hd/day
  - DC Mineral

Facilities

- Create a well-managed pasture you can see
  - Create a low-cost group housing

Dry Cow Feeding Outdoors

Grain Storage

- 60 cow dairy
- Mill is 250 miles from the farm.
- Bin holds 24 tons of grain

Grain Storage

- Trucking costs are escalating
- $102/hr 2020
- $157/hr 2023
- Volume discounts may pay for a bin, ask your supplier

Minerals

Mineral Fortification

- Land and forages are storing less macro and trace minerals
- Deficiencies
  - Calcium
  - Magnesium
  - Phosphorus
  - Sulfur
  - Copper
  - Selenium
  - Vitamin E

Water

- Water stations equal to 2” linear inches per cow
- Water location within 50’ of resting area
- Plate cooler water available immediately after milking
- Water quality testing spring and fall
- Water meter to verify a 3:1 ration to milk production
- Water treatment if necessary


Rinfo
TQ MODEL
2500


AQUA
2500

Breeding

Delay breeding until 90 dim if conception rates are >50%

Why?

Milk peaks are higher on open cows

This will put the herd and milk sales in a 13-14 month cycle

Fertility

- Monitor blood selenium status of the herd
- Organic farms rely heavily on inorganic selenium (Redmonds Sel 90)
- Add selenium yeast to grain, mineral, or molasses

Vermont Housing & Conservation Board

VERMONT FARM & FOREST VIABILITY PROGRAM

Farm A

- 64 mature cows
- 54 milking
  - 41 lbs milk/cow
  - 13lbs grain
- 10 dry cows
- 70 heifers
- 14 wet calves

Grain Budget – 2020

$6,000/month total

$5,000/month new purchases

$1,000 accts payable

Farm A

Milk Quota – 2020

2,750lbs/day @ $31.00/cwt

$25,575/month income

20% budgeted for grain - $5000/month

Seasonally adjusted to low inputs during grazing season, but higher inputs to achieve off season milk premiums

Farm A

Grain Budget Utilization/Milk Quota

$5,000/month 2,750lbs/day

	Grain/day	**Milk/cow**
60 cows	11.2lbs	45.8lbs
50 cows	13.4	55.1
40 cows	16.75	68.8
30 cows	22.3	91.6

Farm A- Grouping Cows

	Grain/cow	**Milk/cow**	**Total milk**
40 cows	14lbs/d	57 lbs	2,280lbs
14 cows	8lbs/d	34 lbs	475lbs
54 cows	670lbs/d	51 lbs	2,755lbs

Both groups were milked twice a day. Dbl 4 parlor.

Separate pastures.

Farm A

Downsize the Herd

	Grain/cow	**Milk/cow**	**Total milk**
32 cows	16.5 lbs (528lbs)	67lbs	2,144lbs
13 cows	8 lbs (104lbs)	38lbs	494lbs
45 cows	14 lbs (632 lbs)	58lbs	2,628lbs

Farm A Summary

Farm shipped milk up to quota allowance

Farm managed the monthly grain budget.

Farm paid an outstanding accounts payable monthly.

Farm reduced herd size

Farmland was put more in balance

Better use of manure, rotations, and seeding improvements.

Farm discontinued buying forage March-May.

Fewer cows, Fewer heifers

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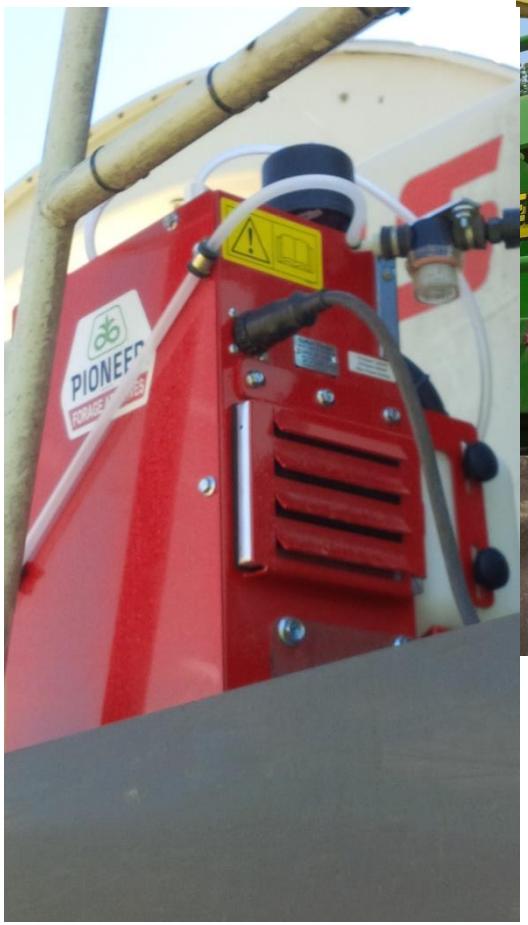
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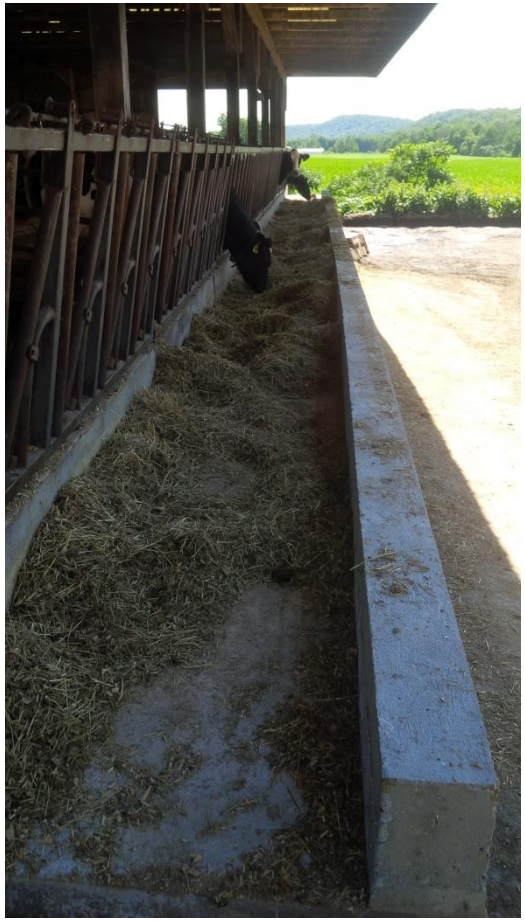


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