

## A Historical Look at Milewski Farm Soil Tests

### Milewski Farm, Thorp Wisconsin Soil Tests 1967—2020

#### Compiled and Commented on by Vicki Milewski & Mike Milewski

In our last post *Soil Testing for Cropping Decisions* (By Vicki Milewski & Mike Milewski) we explored how a scientific approach to soil testing could assist in land management decisions like which crops to plant and even when to harvest. Now we turn our attention to a collection of sporadic soil tests that were done over a 50 year time span. There is not much science in how these tests were done but there is quite a bit of information about the soils on our farm and the history of soil testing.

We offer this initial look at the soil tests for field #5 focusing on the idea of Organic Matter and how it is tested in soils. We have more questions than answers and the main question is how were each of these tests administered and how were they calculated to arrive at the numbers placed on each test? We called a couple of labs and found each one did things differently so expect to see more info on this soil testing dilemma but we wanted to share this initial look at Organic Matter results over the years. Enjoy!

#### Soil Tests

June 29, 2020 Midwest Lab

April 26, 2017 Dairyland Lab

October 30, 2012 Dairyland Lab

November 2008 Soil and Forage Analysis Lab <http://uwlax.soils.wisc.edu/reports> lab # 5464

May 16, 2005 Soil and Forage Analysis Lab

Dec 10, 2004 Midwest Lab

Base test 8/16/1967

### Milewski Farm Field 5

2020

LAB NUMBER	SAMPLE IDENTIFICATION	ORGANIC MATTER L.O.I. percent RATE	PHOSPHORUS			NEUTRAL AMMONIUM ACETATE (EXCHANGEABLE)				pH		CATION EXCHANGE CAPACITY C.E.C. meq/100g	PERCENT BASE SATURATION (COMPUTED)				
			P <sub>1</sub> (WEAK BRAY) 1:7	P <sub>2</sub> (STRONG BRAY) 1:7	OLSEN BICARBONATE P	POTASSIUM K	MAGNESIUM Mg	CALCIUM Ca	SODIUM Na	SOIL pH 1:1	BUFFER INDEX		% K	% Mg	% Ca	% H	% Na
			ppm RATE	ppm RATE	ppm RATE	ppm RATE	ppm RATE	ppm RATE	ppm RATE								
*362*																	
96473	M2-13.2A-5	3.0 M	15 M	21 M		128 M	220 VH	1982 H	28	6.6	6.9	13.0	2.5	14.1	76.2	6.3	0.9

# 2017

THORP, WI 54771

Soil Name	Loyal
Plow Depth:	6.0
Irrigated:	N
Tiled:	N

Laboratory Analysis															
Sample No.	Text Code	Est CEC	Soil pH	O.M. %	P ppm	K ppm	Ca ppm	Mg ppm	B ppm	Mn ppm	Zn ppm	SO4-S ppm	Density	Buffer pH	60-69 Lime
19	2	15	7.0	2.9	18	84	1720	230					0.82	N.R.	0.0
20	2	12	7.0	3.0	16	79	1280	130					0.74	N.R.	0.0
21	2	13	7.1	3.1	15	95	1310	120	0.4	14	2.3	10.0	0.68	N.R.	0.0
Adj. Avg.:		13	7.0	3.0	16	86	1437	160	0.4	14	2.3	10.0			

# 2012

Cation exchange capacity		FIELD M2		ACRES 13.2		SLOPE %		SOIL NAME (or subsoil group) LOYAL				PLOW DEPTH 7.0				
		LABORATORY ANALYSIS														
Sample No.	Test Code	Est CEC	Soil pH	O.M. %	P ppm	K ppm	Ca ppm	Mg ppm	B ppm	Mn ppm	Zn ppm	SO4-S ppm	SAI	Density	Buffer pH	60-69 Lime
47	2		7.3	3.1	21	84								0.92	N.R.	0.0
48	2		7.3	3.1	20	91								0.92	N.R.	0.0
49	2	13	7.1	3.2	18	109	1700	170	0.6	20	3.6	7.5	49	0.92	N.R.	0.0
Adj Avg:		13	7.2	3.2	19	95	1700	170	0.6	20	3.6	7.5	49	0.92	7.2	

# 2008

LABORATORY ANALYSIS																
Sample Identification	Soil pH	C.M %	Phosphorus ppm	Potassium ppm	60-60 Lime Req (Tn)	Calcium ppm	Magnesium ppm	Estimated CEC	Boron ppm	Manganese ppm	Zinc ppm	Sulfate-Sulfur ppm	Sulfur Avail. Inch	Texture Code	Sample Density	Buffer pH
47	6.9	3.0	27	81	0	2300	290	13	1.1	16	3.8	14.2	75	2	0.91	N.R.
48	7.1	3.2	32	84	0									2	0.92	N.R.
49	7.0	3.1	30	83		2300	290	13	1.1	16	3.8	14.2	75	2	0.92	N.R.

SECONDARY & MICRONUTRIENT RECOMMENDATIONS						
Interpretations →	Ca-H	Mg-OPT	B-OPT	Mn-OPT	Zn-OPT	SAI-H
Response to added Ca is unlikely.						

# 2005

LABORATORY ANALYSIS												LAB USE			
Sample Identification	Soil pH	OM %	Phosphorus ppm	Potassium ppm	Calcium ppm	Magnesium ppm	Estimated CEC	Boron ppm	Manganese ppm	Zinc ppm	Sulfate-Sulfur ppm	Sulfur Avail. Index	Texture Code	Sample Density	Buffer Code
7 8	6.4 6.3	2.8 2.6	22 19	55 46									2 2	0.92 0.93	6.8 6.7
Weighted Avg.			6.4	2.7	21	51									
SECONDARY & MICRONUTRIENT RECOMMENDATIONS															

# 1967

NITRATE-N (NO <sub>3</sub> -N)		SULFIDE-S		SULFATE-SO <sub>4</sub>		SILICA-SiO <sub>2</sub>		IRON-Fe		COPPER-Cu		CHROM-Cr		SOLUBLE PHOSPHATE-P	
mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
01307		0-6						17	1.7	21	163	0.6	0.6	L	0.1

1967  
Organic Matter  
56,000 lbs per acre  
About 3% OM