

## Data Collection Sheet-2003 Test Plot-Field 8A

**Farmer name:** Steven Stocking

**Farmer Phone #:** 802-333-4840

**Farmer Address:** 143 Birch Meadow Rd., Fairlee, VT 05045

**Field # and acres:** 8A – 8 Acre field, 1 acre test plot (2 tests, 2 controls-1/4 acre each)

**Farmer primary objective:** Erosion control/nitrogen fixation

**Soil test:** Yes, see attached

**Soil Type:** 67 A-1 First Section, 68 A-1 Second Section

**Soil Description:** Ha-Hadley very fine sandy loam

**Slope:** 0-5%

**Corn year:** 2003

**Conventional Corn variety:** 37M81 Pioneer

**Tillage # and kinds:** Plowed Winter Rye from last Fall down as well as experimental interseed legume crop in 3 ac border on field; field cultivator-perfecta.

**Planter type:** JD Max Emerge Plus- 4 row finger pickup 7200

**Row spacing:** 30"

**Planting rate, population:** 30,000 seeds/ac.

**Seedbox treatment-Insecticide/Fungicide-Kick Start:** Vitavax-Diazinon-Lindane: 1.5 oz bag per bushel

**Planting date:** 5/16/03

**Manure history:** 2001: None, 2002: east-half of plot had 20 tons, 2003: 20t/ac

**Fertilizer at planting:** 50 lbs K, 50 lbs Dap/ac

**Pre-sidedress nitrogen test:** June 17<sup>th</sup>, 2003:Nitrate Level: 7 ppm

**Fertilizer topdress:** June 18<sup>th</sup>, 2003: 46% Urea, 217 lbs/ac, (100# actual N).

**Weeds encountered prior to spraying:** Pre-emergence herbicide spray

**Herbicide+adjuvant+nitrogen type and rates:** In conventional corn: Lumax-2½ qts per/ac. In IMI corn-2 different sprays: Pursuit-1.44 oz, Python-1 oz/ac, in legumes; Pursuit-1.44 oz, Callisto-6 oz/ac in ryegrass. Surfacant-Hydrate Plus-1 qt/100 gal.

**Spray date:** 5/16/03

**IMI Corn variety:** Pioneer 35P15 Clearfield

**Cover crops sp. & variety & rate:** 6 lbs Perennial Ryegrass-Vibrant, 4 lbs Italian Annual Ryegrass per/ac. (1/4 ac/plot site). 8 lbs Med. Red clover, 4 lbs Alfalfa per/ac. (1/4 ac/plot site).

**Date CC Planted:** 5/16/03

**Type of seeder/cover crop:** Brillion-10ft

**Herbicides normally used:** Bicep II/Callisto.

**Date Corn Harvested:** 9/25/03

**SOIL TEST RESULTS**

SOIL TEST RESULTS																		
UVM Results														Recommendations				
Field	Crop	Year	Acres	pH	availP	ResP	K	Mg	Al	Ca	CEC	Zn	N	P	K	Mg	Lime	
1	10	Corn	2003	6	6.2	1.9	12	26	53	21	819	4.6	1.4	30	60	160	0	0
2	6	Clover	2003	6.4	6.3	3.3	23	36	52	12	1034	5.7	0.5	0	50	140	0	0
3	7	Corn	2003	5	6.4	7.5	43	44	61	20	646	3.9	1.1	100	0	160	0	0
4	8-B	Corn	2003	8	6.2	8.3	29	44	44	34	482	2.9	1.4	100	0	160	10	0
5	8-A	Corn	2003	8	6.2	11.4	49	54	55	22	541	3.3	1.7	100	0	120	0	0
6	B.M.L.	Clover	2003	5	6.6	9.0	205	67	74	60	893	5.3	0.9	40	0	180	0	0
7	P.T.L.	Clover	2003	2	6.2	12.2	220	60	108	62	1088	6.5	1.5	40	0	180	0	0
8	4	Corn	2003	10	6.6	15.4	289	86	128	48	1362	8.1	7.7	100	0	80	0	0
9	5	Corn	2003	5	6.7	15.3	231	71	122	49	1381	8.1	5.9	100	0	120	0	0
10	U.M.G.	Clover	2003	6	6.4	7.3	206	120	60	62	636	4.0	1.4	40	0	100	0	0
11	1	Corn	2003	20	6.7	13.6	272	96	142	50	1393	8.4	6.4	100	0	80	0	0
MICRONUTRIENTS							METALS					% ORGANIC MATTER						
UVM Results							UVM Results											
Field	Na	Fe	B	Mn	Cu	Zn	Cu	Cd	Cr	Zn	Ni	Pb						
1	10	13.0	9.1	0.6	16.5	1.0	1.4											2.1
2	6	11.0	5.9	0.2	14.8	<.2	<.5											
3	7	13.0	2.8	<.1	12.4	0.3	1.1											1.4
4	8-B	12.0	11.4	<.1	12.9	0.6	1.4											1.1
5	8-A	12.0	5.5	0.2	10.4	0.5	1.7											1.1
6	B.M.L.	19.0	4.7	0.4	11.1	<.2	0.9											2.7
7	P.T.L.	19.0	10.6	<.1	10.9	<.2	1.5											4.0
8	4	28.0	3.6	0.7	18.1	0.5	7.7	0.5	<.2	<.5	7.7	<.5	<.5					2.8
9	5	22.0	2.8	0.3	8.9	0.5	5.9	0.5	0.2	<.5	5.9	<.5	<.5					2.8
10	U.M.G.	14.0	4.4	0.5	11.6	0.2	1.4											
11	1	25.0	2.4	0.7	25.1	0.3	6.4	0.3	<.2	<.5	6.4	<.5	0.5					2.8

UVM SOIL NITRATE TEST  
for FIELD CORN

Birch Meadow Farms  
567 Victory Rd  
East Burke VT 05832

samples processed 06/19/03  
ORANGE county

NITROGEN FERTILIZER RECOMMENDATION

LAB #	NITRATE-N LEVEL FROM SOILTEST	FIELD SAMPLE IDENTIFICATION	=> choose your yield goal:		
			15	20	25 tons/acre or more
			90	120	150 bu/acre or more
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	(ppm)		- - lbs/acre of N to apply - -		
30	7	8-A Test Plot	75	105	130

\*\* Field 8-A Test Plot had a higher N fertilizer recommendation (lower nitrate test level) than expected given that soil drainage is not poor and the field received 20 tons/acre of manure

.... Please check the above information. If the information is correct, the recommended N rate may be higher than expected because of poor manure management, very poor plowed down sod, or unusually high rainfall, or wet soil conditions that reduced or delayed the availability of N from manure or other sources. Contact the Extension Soils Specialist (656-2630) or Extension Agronomy Agent WILLIE GIBSON (223-2389) about possible adjustment of the recommended N rate.

**Field Plot Database**

**Steve Stocking**

Date	Corn Height	Interseed #1 Height- Rye	Interseed #2 Height- Clover	Residue Count	Seedling Count- Rye	Seedling Count - Clover	Comments
05/27/03	1 in.	Emergence	Emergence	n/a	n/a	n/a	Corn in second leaf. Field looks good.
06/10/03	5 - 7 in.	1 - 1 1/2 in.	1/2 - 1 in.	n/a	13	40	Clover in third leaf.
06/17/03	6-10+ in.	1 - 2 in.	1 - 1 1/2 in.	n/a	11	29	F. Horsetail/Rye. W. Mustard, Pigweed/Clover. Weed pressure is very light.
07/08/03	34-44+ in.	3 - 4 in.	8 - 11 in.	n/a	n/a	n/a	PMC Tour of Site. Rye nonexistent. Drought conditions. Corn curl. Heavy grass on one end of Clover test plot. Small weed pressure throughout.
07/23/03	6 ft.+	n/a	6-10 in. +	n/a	n/a	n/a	Grass control in clover plot and control plot 1 not good. Lots of grass. Slight other weed pressure from pigweed, lambsquarters and wild mustard. Pretty good grass control in control plot 2 and rye plot. Too good, no rye left. Conventional corn is 6 1/2 to 7+ ft.
08/06/03	8 ft. +	n/a	8-10 in. +	n/a	n/a	n/a	Middle of plots has shorter corn, 7 ft. or less, due to drought and prior flood area, I believe. No rye grass to be found. Weed control in control 2 and rye seems good. Legume, once past about 50 ft. of heavy grass evens out. Stand could be thicker. Some weed pressure in legume plot and control.
09/09/03	8 ft.+	n/a	8-10 in. +	n/a	n/a	n/a	Weed control in control 2 seems a little better than rye, which is confusing. Both have same herbicide application. Clover is thin and sparse. Corn yields, 3 each taken in control 1 and test plot one by UVM. None taken in rye, not necessary. None taken in conventional plot either. Corn was almost ready to harvest, conventional is definitely further along, as it should be.
09/29/03	n/a	3+ in.	6+ in.	n/a	n/a	n/a	Corn was chopped prior to visit. Control areas seem fairly clean. Rye seems to have come back to a small extent. Clover is there, should come back fairly good with warm weather. There has been some natural compaction of clover due to harvest.

Steve Stocking Farm 2003  
 Sept. 9, 2003

<u>Treatment</u>	<u>Plot</u>	<u>%DM</u>	<u>Yield (tons/acre)</u>			<u>Plant Pop.</u>
			<u>"As Is"</u>	<u>DM</u>	<u>Silage Equivalent*</u>	<u>Plants/acre</u>
IMI corn with	1	38%	17.8	6.7	19.2	23,958
Alfalfa	2	40%	19.4	7.7	21.9	31,581
	3	37%	20.2	7.5	21.5	26,136
	Average	38%	19.1	7.3	20.9	27,225
IMI Control	1	37%	25.9	9.6	27.5	33,759
with no cover	2	40%	16.6	6.7	19.0	28,314
	3	39%	19.6	7.7	22.0	31,581
	Average	39%	20.7	8.0	22.8	31,218

\*Silage Equivalent = Silage at 35% dry matter content

**FERTILIZER RECOMMENDATION – April 18, 2003**  
**Birch Meadow Farms, Fairlee, VT**

Based on a quick look, the recommendation for the field with test plot 8A is really simple:

1. NO manure (or septic, etc.)
2. Absolute MINIMUM starter fertilizer (100# of 5-10-10 w/ mineral pack).
3. Side-dress nitrogen according to PSNT ONLY.

William S. Gibson, Agricultural Consultant

**PHOSPHORUS WORKSHEET- October 23, 2003**  
**Birch Meadow Farms, Fairlee, VT**

Formula from *The Phosphorus Index: A Tool for Management of Agricultural Phosphorus in Vermont*, Bill Jokela, University of Vermont.

Draft 5: 3/2001.

Soil Test P (STP): 11.4      Fertilizer P Application Method (FP Method): .4      Manure P Application Method (MP Method): .4

Fertilizer P Rate (FP Rate): 50

Manure P Rate (MP Rate): 6

**P Source Potential = STP + (FP Rate x FP Method) + (MP Rate x MP Method)**

**P Source Potential = 11.4 + (50 x .4) + (6 x .4) = 11.4 + 20 + 2.4 = 33.8**

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Soil Erosion (E)      1.5 \* 3 = 4.5      Soil Runoff Class (R)      6  
Tons/acre/year  
(RUSLE)

Buffer Width (BW), ft.      0.8      Flooding Frequency (F)      3

**P Transport Potential = ((E x BW) + R + F) / 25**

**P Transport Potential = ((4.5 x 0.8) + 6 + 3) / 25 = ((3.6) + 6 + 3) / 25 = 12.6 / 25 = 0.504**

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**P Index = P Transport Potential x P Source Potential**

**P Index = 0.504 x 33.8 ≈ 17.0**

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**Site Interpretation and Recommendation:**

**< 25 = LOW potential for P movement from site. If farming practices are maintained at the current level there is a low probability of an adverse impact to surface waters from P loss. N-based nutrient management is acceptable.**

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[Figures for E and R are estimated by researcher using information from the Orange County Soil survey, field slope and soil type characteristics, since actual RUSLE was not available from NRCS. Soil Runoff Class was a calculated estimate of **Medium** due to a slight slope in field.]