

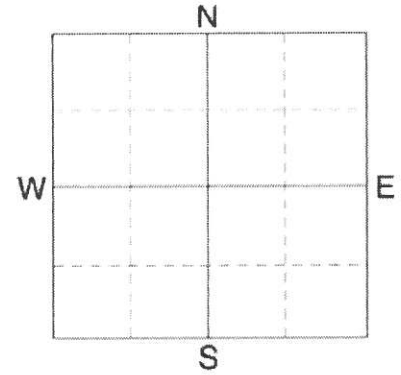
# RICHARDSON

## PIONEER

Soil Analysis by Agvise Laboratories  
 (http://www.agvise.com)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID **Ernie**  
 SAMPLE ID **1**  
 FIELD NAME **Ernie**  
 COUNTY  
 TWP RANGE  
**NW/SW**  
 SECTION QTR **3-10-** ACRES **240**  
**3W**



SUBMITTED FOR:  
**HORIZON COLONY FARMS LTD**

Lowe Farm,

SUBMITTED BY: **PI2813**  
**RICHARDSON PIONEER-STARBU**  
**RAILWAY AVE**  
**BOX 130**  
**STARBUCK, MB** **ROG 2P0**

REF # **3074868** BOX # **5111**  
 LAB # **NW193454**

Date Sampled

Date Received **10/26/2020**

Date Reported **10/28/2020**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		Low Med High	Barley		Oats		Wheat-Spring				
Nitrate	0-6"	14 lb/acre	YIELD GOAL		YIELD GOAL		YIELD GOAL				
	6-24"	27 lb/acre	110 BU		150 BU		75 BU				
	0-24"	41 lb/acre	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
			Band/Maint.		Band/Maint.		Band/Maint.				
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Olsen	7 ppm		N	115	N	94	N	147			
Phosphorus			P <sub>2</sub> O <sub>5</sub>	52	P <sub>2</sub> O <sub>5</sub>	41	P <sub>2</sub> O <sub>5</sub>	47			
Potassium	483 ppm			Band *		Band *		Band *			
Chloride	0-24"	264 lb/acre	K <sub>2</sub> O	10	K <sub>2</sub> O	10	K <sub>2</sub> O	10			
				(Starter)*		(Starter)*		(Starter)*			
	0-6"	32 lb/acre	Cl	0	Cl	0	Cl	0			
	6-24"	360 +lb/acre	S	0	S	0	S	0			
Sulfur			B	0	B	0	B	0			
Boron	1.1 ppm		Zn	0	Zn	0	Zn	0			
Zinc	0.61 ppm		Fe	0	Fe	0	Fe	0			
Iron	61.2 ppm		Mn	0	Mn	0	Mn	0			
Manganese	4.1 ppm		Cu	0	Cu	0	Cu	0			
Copper	2.25 ppm		Mg	0	Mg	0	Mg	0			
Magnesium	1834 ppm		Lime		Lime		Lime				
Calcium	5106 ppm		Soil pH		Cation Exchange		% Base Saturation (Typical Range)				
Sodium	93 ppm		Buffer pH		Capacity	% Ca	% Mg	% K	% Na	% H	
Org.Matter	5.6 %		0-6"	7.3	42.5 meq	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)	
Carbonate(CCE)	2.5 %		6-24"	7.9		60.1	36.0	2.9	1.0	0.0	
Sol. Salts	0-6"	0.69 mmho/cm									
	6-24"	1.23 mmho/cm									

General Comments: Fine-textured (CEC: 31+ meq)  
 Percent hydrogen is estimated from water pH, CEC corrected for exchangeable acidity.

Crop 1: \*CAUTION: Seed-placed fertilizer can cause injury.\* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 52 K2O = 55 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

Crop 2: \*CAUTION: Seed-placed fertilizer can cause injury.\* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 29 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

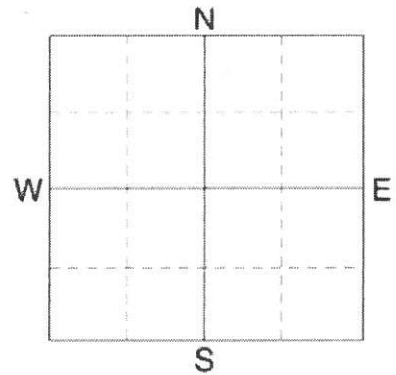
Crop 3: \*CAUTION: Seed-placed fertilizer can cause injury.\* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 47 K2O = 28 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



Soil Analysis by Agvise Laboratories  
 (http://www.agvise.com)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID **East Arnel**  
 SAMPLE ID **1**  
 FIELD NAME **East Arnel**  
 COUNTY  
 TWP RANGE  
**E1/2**  
 SECTION QTR **35-9-** ACRES **320**  
**3W**



SUBMITTED FOR:  
**HORIZON COLONY FARMS LTD**

**Lowe Farm,**

SUBMITTED BY: **PI2813**  
**RICHARDSON PIONEER-STARBU**  
**RAILWAY AVE**  
**BOX 130**  
**STARBUCK, MB**      **ROG 2P0**

REF # **3074877** BOX # **5167**  
 LAB # **NW193455**

Date Sampled \_\_\_\_\_ Date Received **10/26/2020** Date Reported **10/28/2020**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High								
Nitrate	0-6"					Canola-bu		Canola-bu		Soybeans			
	6-24"					YIELD GOAL		YIELD GOAL		YIELD GOAL			
						55 BU		65 BU		45 BU			
	0-24"					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
						Band/Maint.		Band/Maint.		Band/Maint.			
Olsen	10 ppm					LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Phosphorus						N	132	N	167	N	***		
Potassium	451 ppm					P <sub>2</sub> O <sub>5</sub>	50 Band *	P <sub>2</sub> O <sub>5</sub>	59 Band *	P <sub>2</sub> O <sub>5</sub>	34	Band *	
Chloride	0-24"					K <sub>2</sub> O	0	K <sub>2</sub> O	0	K <sub>2</sub> O	0		
						Cl	Not Available	Cl	Not Available	Cl	0		
Sulfur	0-6"					S	15 Band	S	15 Band	S	5	Band (Trial)	
Boron	1.5 ppm					B	0	B	0	B	0		
Zinc	0.60 ppm					Zn	2 Band	Zn	2 Band	Zn	2 Band		
Iron	53.8 ppm					Fe	0	Fe	0	Fe	0		
Manganese	2.8 ppm					Mn	0	Mn	0	Mn	0		
Copper	2.29 ppm					Cu	0	Cu	0	Cu	0		
Magnesium	1855 ppm					Mg	0	Mg	0	Mg	0		
Calcium	5612 ppm					Lime		Lime		Lime			
Sodium	83 ppm												
Org. Matter	5.7 %												
Carbonate(CCE)	3.0 %												
Sol. Salts	0-6"					Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
	6-24"					0-6" 7.5		45.0 meq	% Ca	% Mg	% K	% Na	% H
						6-24" 7.9			(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
									62.3	34.3	2.6	0.8	0.0

**General Comments:** Fine-textured (CEC: 31+ meq)  
**Crop 1:** Limited data on crop response to chloride. \*CAUTION: Seed-placed fertilizer can cause injury.\* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P<sub>2</sub>O<sub>5</sub> = 50 K<sub>2</sub>O = 25 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.  
**Crop 2:** Limited data on crop response to chloride. \*CAUTION: Seed-placed fertilizer can cause injury.\* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P<sub>2</sub>O<sub>5</sub> = 59 K<sub>2</sub>O = 29 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.  
**Crop 3:** \*CAUTION: Seed-placed fertilizer can cause injury.\* May respond to starter P & K, even on high soil tests. Soybean iron deficiency (IDC) risk is high, based on soil carbonate and salinity. Crop nutrient removal: P<sub>2</sub>O<sub>5</sub> = 34 K<sub>2</sub>O = 53 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

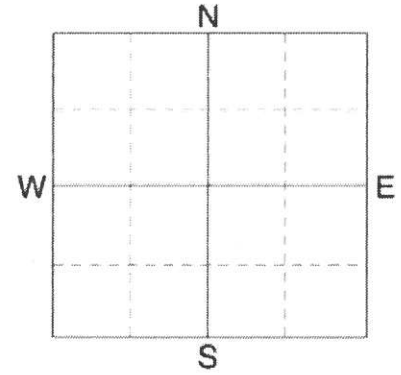
# RICHARDSON

## PIONEER

Soil Analysis by Agvise Laboratories  
 (http://www.agvise.com)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID **West Lehrer + SW Coulee**  
 SAMPLE ID  
 FIELD NAME **West Lehrer + SW Coulee**  
 COUNTY  
 TWP RANGE  
**W1/2**  
 SECTION QTR **36-9-** ACRES **320**  
**3W**



SUBMITTED FOR:  
**HORIZON COLONY FARMS LTD**

Low Farm,

SUBMITTED BY: **PI2813**  
**RICHARDSON PIONEER-STARBU**  
**RAILWAY AVE**  
**BOX 130**  
**STARBUCK, MB**      **ROG 2P0**

REF # **3074881** BOX # **5167**  
 LAB # **NW193456**

Date Sampled

Date Received **10/26/2020**

Date Reported **10/28/2020**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow Low Med High	Barley		Oats		Wheat-Spring			
Nitrate	0-6"      38 lb/acre		YIELD GOAL		YIELD GOAL		YIELD GOAL			
	6-24"      66 lb/acre		110 BU		150 BU		75 BU			
	0-24"      104 lb/acre		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
			Band/Maint.		Band/Maint.		Band/Maint.			
Olsen	11 ppm		LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Phosphorus			N	67	N	46	N	99		
Potassium	512 ppm		P <sub>2</sub> O <sub>5</sub>	52 <b>Band *</b>	P <sub>2</sub> O <sub>5</sub>	38 <b>Band *</b>	P <sub>2</sub> O <sub>5</sub>	47 <b>Band *</b>		
Chloride	0-24"      212 lb/acre		K <sub>2</sub> O	10 <b>Band (Starter)*</b>	K <sub>2</sub> O	10 <b>Band (Starter)*</b>	K <sub>2</sub> O	10 <b>Band (Starter)*</b>		
Sulfur	0-6"      38 lb/acre		Cl	0	Cl	0	Cl	0		
	6-24"      216 lb/acre		S	0	S	0	S	0		
Boron	1.7 ppm		B	0	B	0	B	0		
Zinc	0.74 ppm		Zn	0	Zn	0	Zn	0		
Iron	35.9 ppm		Fe	0	Fe	0	Fe	0		
Manganese	2.8 ppm		Mn	0	Mn	0	Mn	0		
Copper	1.98 ppm		Cu	0	Cu	0	Cu	0		
Magnesium	2181 ppm		Mg	0	Mg	0	Mg	0		
Calcium	5528 ppm		Lime		Lime		Lime			
Sodium	113 ppm									
Org.Matter	5.6 %									
Carbonate(CCE)	3.8 %									
Sol. Salts	0-6"      0.79 mmho/cm		Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
	6-24"      0.89 mmho/cm		0-6" 7.7		47.6 meq	% Ca	% Mg	% K	% Na	% H
			6-24" 8.3			(65-75) 58.0	(15-20) 38.2	(1-7) 2.8	(0-5) 1.0	(0-5) 0.0

General Comments: Soil texture is not estimated on high pH soils.

Crop 1: \*CAUTION: Seed-placed fertilizer can cause injury.\* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 52 K2O = 55 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

Crop 2: \*CAUTION: Seed-placed fertilizer can cause injury.\* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 29 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

Crop 3: \*CAUTION: Seed-placed fertilizer can cause injury.\* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 47 K2O = 28 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



P.O. BOX 510, NORTHWOOD, ND 58267  
(701) 587-6010

FIELD South Coulee SAMPLE 1  
COUNTY  
TWP SECTION  
QTR NE 25-9-3 ACRES 80.0  
PREV CROP SOYBEANS

W

S

**SUBMITTED FOR:**

STARLITE COLONY

STARBUCK, ND

ROG ZFO CANADA

**SUBMITTED BY:**

RICHARDSON PIONEER-STARBUCK  
RAILWAY AVE  
BOX 130  
STARBUCK, ND

P12317

REF # 2019431

LAB # 126405

BOX # 4910

DATE SAMPLED

DATE RECEIVED

10/ 1/20

DATE REPORTED

10/ 1/20

NUTRIENT IN THE SOIL	INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE	
	V LOW	LOW	MED	HIGH	GRAIN CORN		GRAIN CORN		WHEAT	
nitrate N					YIELD GOAL 150 BU		YIELD GOAL 180 BU		YIELD GOAL 75 BU	
phosphorus					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES	
potassium					P & K MAINTENANCE		P & K MAINTENANCE		P & K MAINTENANCE	
chloride 0-24"					LB / ACRE APPLICATION		LB / ACRE APPLICATION		LB / ACRE APPLICATION	
sulfur					N 112		N 149		N 150	
boron					P <sub>2</sub> O <sub>5</sub> 55 Band #		P <sub>2</sub> O <sub>5</sub> 66 Band #		P <sub>2</sub> O <sub>5</sub> 46 Band #	
calcium					K <sub>2</sub> O 10 Band (2x2) *		K <sub>2</sub> O 10 Band (2x2) *		K <sub>2</sub> O 10 Band (Starter) *	
zinc					Cl **		Cl **		Cl 4 Band	
iron					S 5 Band (Trial)		S 5 Band (Trial)		S 5 Band (Trial)	
magnesium					B 0		B 0		B 0	
copper					Zn 2 Band		Zn 3 Band		Zn 1 Band	
nickel					Fe 0		Fe 0		Fe 0	
potassium					Mn 0		Mn 0		Mn 0	
calcium					Cu 0		Cu 0		Cu 0	
zinc					Mg 0		Mg 0		Mg 0	
iron					Lime 0.0		Lime 0.0		Lime 0.0	
organic Matter										
carbonate (CCE)										
soluble salts										

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0- 6" 7.1			(45-75)	(15-20)	(1-7)	(0-5)	(0-5)
6-24" 7.8		44.7 meq/kg	60.1	34.9	3.6	0.5	0.9

⚠CAUTION: Seed-placed fertilizer can cause injury.⚠

Percent hydrogen is estimated from water pH, CEC corrected for exchangeable acidity;

Estimated Soil Texture: Clay/Clay Loam (CEC range = 30+) (Fine); Chloride is low, yield data limited for this crop;

8 lb 0-0-60 = 4 lb Chloride;

Nitrogen credits granted: Crop 1 = 30 Crop 2 = 30 Crop 3 = 15 May be adjusted based on local conditions;

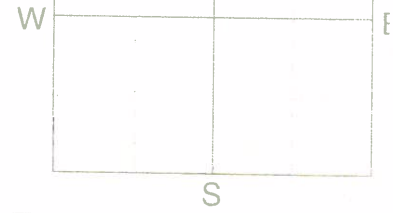
In no-till or reduced tillage systems, an additional 30 lb/acre nitrogen may increase corn yield;

Crop Nutrient Removal: Crop 1: P205 56 K2O 35 Crop 2: P205 67 K2O 41 Crop 3: P205 47 K2O 38.



P.O. BOX 510, NORTHWOOD, ND 58267  
(701) 587-6010

FIELD S CARLE DYCK SAMPLE 1  
COUNTY  
TWP SECTION  
QTR NE 7-9-20 ACRES 80.0  
PREV CROP WHEAT



**SUBMITTED FOR:**

STARLITE COLONY

**SUBMITTED BY:**

RICHARDSON PIONEER-STARBUCK  
RAILWAY AVE  
BOX 130  
STARBUCK, ND

PI2813

STARBUCK, ND

ROG ZPO CANADA

ROG ZPO CANADA

REF # 3064160

LAB # 141144

BOX # 152

DATE SAMPLED

DATE RECEIVED

10/ 6/20

DATE REPORTED

10/ 9/20

NUTRIENT IN THE SOIL	INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE	
	V LOW	LOW	MED	HIGH	BARLEY		WHEAT		WHEAT	
0- 6" Nitrate N	6 lb/acre				YIELD GOAL 110 BU	YIELD GOAL 100 BU	YIELD GOAL 75 BU			
6-24" Nitrate N	9 lb/acre				SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES	
0-24" Nitrate N	15 lb/acre				P & K MAINTENANCE		P & K MAINTENANCE		P & K MAINTENANCE	
					LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION
					N 156		N 140		N 126	
0- 6" Phosphorus	8 ppm				P <sub>2</sub> O <sub>5</sub> 51	Band #	P <sub>2</sub> O <sub>5</sub> 47	Band #	P <sub>2</sub> O <sub>5</sub> 43	Band #
6-24" Phosphorus					K <sub>2</sub> O 10	Band(Starter)*	K <sub>2</sub> O 10	Band(Starter)*	K <sub>2</sub> O 10	Band(Starter)*
0-24" Potassium	439 ppm				Cl 0		Cl 0		Cl 0	
0- 6" Chloride	420 lb/acre				S 5	Band (Trial)	S 5	Band (Trial)	S 5	Band (Trial)
6-24" Chloride					B 0		B 0		B 0	
0- 6" Sulfur	6 lb/acre				Zn 1	Band	Zn 1	Band	Zn 1	Band
6-24" Sulfur	174 lb/acre				Fe 0		Fe 0		Fe 0	
Iron	1.1 ppm				Mn 0		Mn 0		Mn 0	
Copper	0.31 ppm				Cu 0		Cu 0		Cu 0	
Zinc	33.0 ppm				Mg 0		Mg 0		Mg 0	
Manganese	1.4 ppm				Lime 0.0		Lime 0.0		Lime 0.0	
Copper	2.17 ppm									
Magnesium	1760 ppm									
Calcium	3340 ppm									
Sodium	81 ppm									
Organic Matter	4.5 %									
Carbonate (CCE)	2.4 % CCE									
0- 6" Soluble Salts	0.60 dS/m									
6-24" Soluble Salts	0.89 dS/m									

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0- 6" 7.6			(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
6-24" 8.1		44.1 meq/kg	63.0	33.7	2.6	0.8	

\*CAUTION: Seed-placed fertilizer can cause injury.\*

Estimated Soil Texture: Clay/Clay Loam (CEC range = 30+) (Fine);

Crop Nutrient Removal: Crop 1: P205 52 K2O 55 Crop 2: P205 47 K2O 50 Crop 3: P205 47 K2O 28;

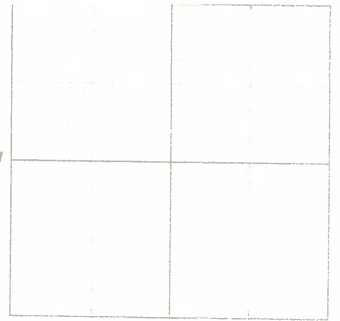
ADVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.



P.O. BOX 610, NORTHWOOD, ND 58267  
(701) 567-6010

FIELD CUYOT SAMPLE 1  
 COUNTY SECTION  
 TWP ACRES 80.0  
 QTR NW 25-9-3M  
 PREV CROP WHEAT

W



SUBMITTED FOR:

STARLITE COLONY

STARBUCK, NB

ROG ZPO CANADA

SUBMITTED BY:

RICHARDSON PIONEER-STARBUCK  
 RAILWAY AVE  
 BOX 130  
 STARBUCK, NB

PI2913

ROG ZPO CANADA

REF # 3064242  
 LAB # 141151

BOX # 59

ATE SAMPLED

DATE RECEIVED

10/ 6/20

DATE REPORTED

10/ 9/20

NUTRIENT IN THE SOIL		INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE	
		V LOW	LOW	MED	HIGH	GRAIN CORN		GRAIN CORN		GRAIN CORN	
0-6"	14 lb/acre										
6-24"	18 lb/acre										
0-24"	32 lb/acre	*****									
Nitrate N					YIELD GOAL 175 BU		YIELD GOAL 145 BU		YIELD GOAL 155 BU		
Phosphorus	4 ppm	*****			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		
Potassium	453 ppm	*****			P & K MAINTENANCE		P & K MAINTENANCE		P & K MAINTENANCE		
Chloride 0-24"	56 lb/acre	*****			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	
Sulfur 0-6"	32 lb/acre	*****			N	178	N	166	N	164	
0-24"	141 lb/acre	*****			P <sub>2</sub> O <sub>5</sub>	79 Band #	P <sub>2</sub> O <sub>5</sub>	75 Band #	P <sub>2</sub> O <sub>5</sub>	70 Band #	
Boron	1.3 ppm	*****			K <sub>2</sub> O	10 Band (2x2) #	K <sub>2</sub> O	10 Band (2x2) #	K <sub>2</sub> O	10 Band (2x2) #	
Zinc	0.28 ppm	*****			Cl	0	Cl	0	Cl	0	
Copper	1.59 ppm	*****			S	0	S	0	S	0	
Magnesium	2152 ppm	*****			B	0	B	0	B	0	
Calcium	6057 ppm	*****			Zn	4 Band	Zn	4 Band	Zn	3 Band	
Sodium	95 ppm	*****			Fe	0	Fe	0	Fe	0	
					Mn	2 Band	Mn	2 Band	Mn	2 Band	
					Cu	0	Cu	0	Cu	0	
					Mg	0	Mg	0	Mg	0	
					Lime	0.0	Lime	0.0	Lime	0.0	
Organic Matter	5.4 %	*****									
Carbonate (CCE)	7.5 % CCE	*****									
Soluble salts 0-6"	0.76 dS/m	*****									
6-24"	0.83 dS/m	*****									

⚠CAUTION: Seed-placed fertilizer can cause injury.⚠

Estimated Soil Texture: Soil Texture is not estimated on high pH soils;

In no-till or reduced tillage systems, an additional 30 lb/acre nitrogen may increase corn yield;

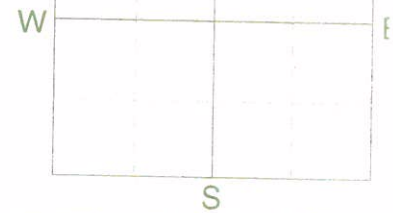
Crop Nutrient Removal: Crop 1: P205 65 K2O 40 Crop 2: P205 61 K2O 38 Crop 3: P205 57 K2O 36

AGVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.



P.O. BOX 510, NORTHWOOD, ND 58267  
(701) 587-6010

FIELD EAST STARLITE SAMPLE 1  
 COUNTY  
 TWP SECTION  
 QTR NE/4E 4-10-2W ACRES 160.0  
 PREV CROP CANOLA



**SUBMITTED FOR:**

STARLITE COLONY

**SUBMITTED BY:**

RICHARDSON PIONEER-STARBU  
 RAILWAY AVE  
 BOX 130  
 STARBUCK, NB

PT2513

STARBUCK, NB

ROG 2PO CANADA

ROG 3PO CANADA

REF # 3054150

LAB # 141143

BOX # 47

DATE SAMPLED

DATE RECEIVED

10/ 6/20

DATE REPORTED

10/ 8/20

NUTRIENT IN THE SOIL	INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE	
	V LOW	LOW	MED	HIGH	BARLEY		BARLEY		WHEAT	
nitrate N					YIELD GOAL 110 BU		YIELD GOAL 100 BU		YIELD GOAL 75 BU	
phosphorus					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES	
potassium					P & K MAINTENANCE		P & K MAINTENANCE		P & K MAINTENANCE	
chloride					LB / ACRE APPLICATION		LB / ACRE APPLICATION		LB / ACRE APPLICATION	
sulfur					N 59		N 83		N 131	
boron					P <sub>2</sub> O <sub>5</sub> 0		P <sub>2</sub> O <sub>5</sub> 0		P <sub>2</sub> O <sub>5</sub> 0	
calcium					K <sub>2</sub> O 10 Band(Starter)*		K <sub>2</sub> O 10 Band(Starter)*		K <sub>2</sub> O 10 Band(Starter)*	
magnesium					Cl 0		Cl 0		Cl 0	
zinc					S 0		S 0		S 0	
iron					B 0		B 0		B 0	
copper					Zn 0		Zn 0		Zn 0	
manganese					Fe 0		Fe 0		Fe 0	
nickel					Mn 0		Mn 0		Mn 0	
barium					Cu 0		Cu 0		Cu 0	
potassium					Mg 0		Mg 0		Mg 0	
calcium					Lime 0.0		Lime 0.0		Lime 0.0	
soil pH										
buffer pH										
cation exchange capacity										
% base saturation										
% Ca										
% Mg										
% K										
% Na										
% H										

CAUTION: Seed-placed fertilizer can cause injury.†

Estimated Soil Texture: Clay/Clay Loam (CEC range = 30+) (Fine):

Crop Nutrient Removals: Crop 1: P205 52 K2O 55 Crop 2: P205 47 K2O 50 Crop 3: P205 47 K2O 29;

AGVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain from.



P.O. BOX 510, NORTHMOOD, ND 58267  
(701) 587-6010

FIELD N CARLE DYCK SAMPLE 1  
COUNTY  
TWP SECTION  
QTR E1/2 18-9-2N ACRES 270.0  
PREV CROP SOYBEANS

W

S

**SUBMITTED FOR:**

STARLITE COLONY

STARBUCK, MB

ROG 2FO CANADA

**SUBMITTED BY:**

RICHARDSON PIONEER-STARBU  
RAILWAY AVE  
BOX 130  
STARBUCK, MB

PC2813

ROG 2FO CANADA

REF # 3019638

LAB # 125406

BOX # 5021

DATE SAMPLED

DATE RECEIVED

10/ 1/20

DATE REPORTED

10/ 5/20

NUTRIENT IN THE SOIL		INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE				
		V LOW	LOW	MED	HIGH	BARLEY		BARLEY		BARLEY				
0-6"	10 lb/acre													
6-24"	18 lb/acre													
0-24"	28 lb/acre													
nitrate N														
phosphorus	15 ppm													
potassium	503 ppm													
chloride 0-24"	56 lb/acre													
sulfur 0-6"	120+ lb/acre													
6-24"	66 lb/acre													
boron	1.0 ppm													
calcium	0.36 ppm													
iron	35.5 ppm													
manganese	1.7 ppm													
copper	1.95 ppm													
magnesium	1948 ppm													
zinc	5303 ppm													
barium	81 ppm													
organic Matter	5.9 %													
carbonate (CCE)	1.8 % CCE													
moisture 0-6"	0.95 dS/m													
6-24"	0.57 dS/m													
						YIELD GOAL 90 BU		YIELD GOAL 100 BU		YIELD GOAL 110 BU				
						SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
						P & K MAINTENANCE		P & K MAINTENANCE		P & K MAINTENANCE				
						LB / ACRE	APPLICATION	LB / ACRE	APPLICATION	LB / ACRE	APPLICATION			
						N	97	N	112	N	128			
						P <sub>2</sub> O <sub>5</sub>	42 Band #	P <sub>2</sub> O <sub>5</sub>	47 Band #	P <sub>2</sub> O <sub>5</sub>	51 Band #			
						K <sub>2</sub> O	10 Band(Starter)*	K <sub>2</sub> O	10 Band(Starter)*	K <sub>2</sub> O	10 Band(Starter)*			
						Cl	0	Cl	0	Cl	0			
						S	0	S	0	S	0			
						B	0	B	0	B	0			
						Zn	1 Band	Zn	1 Band	Zn	1 Band			
						Fe	0	Fe	0	Fe	0			
						Mn	0	Mn	0	Mn	0			
						Cu	0	Cu	0	Cu	0			
						Mg	0	Mg	0	Mg	0			
						Lime	0.0	Lime	0.0	Lime	0.0			
						Soil pH		Buffer pH		% Base Saturation (Typical Range)				
								Cation Exchange Capacity		% Ca	% Mg	% K	% Na	% H
						0-6"	7.5			(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
						6-24"	8.2			59.7	34.6	2.9	0.9	

\*CAUTION: Seed-placed fertilizer can cause injury.\*

Estimated Soil Texture: Clay/Clay Loam (CEC range = 30+) (Fine):

Nitrogen credits granted: Drop 1 = 15 Crop 2 = 15 Crop 3 = 15 May be adjusted based on local conditions;

Crop Nutrient Removal: Crop 1: P205 42 K2O 45 Crop 2: P205 47 K2O 50 Crop 3: P205 52 K2O 55;

AGVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.





P.O. BOX 510, NORTHWOOD, ND 58267  
(701) 587-6010

FIELD NORTH STARLITE SAMPLE 1  
 COUNTY  
 TWP SECTION  
 QTR NE/40 4-10-20 ACRES 175.0  
 PREV CROP CANOLA

W

S

SUBMITTED FOR:

STARLITE COLONY

SUBMITTED BY:

P12813

RICHARDSEN PIONEER-STARBUCK  
 RAILWAY AVE  
 BOX 130  
 STARBUCK, NB

ROG ZPO CANADA

REF # 3064137

LAB # 141142

BOX # 137

DATE SAMPLED

DATE RECEIVED

10/ 6/20

DATE REPORTED

10/ 9/20

NUTRIENT IN THE SOIL		INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE	
		V LOW	LOW	MED	HIGH	BARLEY		BARLEY		WHEAT	
0- 6"	34 lb/acre					YIELD GOAL	110 BU	YIELD GOAL	100 BU	YIELD GOAL	75 BU
6-24"	54 lb/acre					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES	
0-24"	65 lb/acre					P & K MAINTENANCE		P & K MAINTENANCE		P & K MAINTENANCE	
						LB / ACRE	APPLICATION	LB / ACRE	APPLICATION	LB / ACRE	APPLICATION
Nitrate N						N	85	N	67	N	115
Phosphorus	36 ppm					P <sub>2</sub> O <sub>5</sub>	51 Band *	P <sub>2</sub> O <sub>5</sub>	47 Band *	P <sub>2</sub> O <sub>5</sub>	46 Band *
Potassium	440 ppm					K <sub>2</sub> O	10 Band(Starter)*	K <sub>2</sub> O	10 Band(Starter)*	K <sub>2</sub> O	10 Band(Starter)*
Chloride 0-24"	494 lb/acre					Cl	0	Cl	0	Cl	0
Sulfur 0- 6"	120+ lb/acre					S	0	S	0	S	0
6-24"	350+ lb/acre					B	0	B	0	B	0
Boron	2.0 ppm					Zn	0	Zn	0	Zn	0
Manganese	2.10 ppm					Fe	0	Fe	0	Fe	0
Copper	52.4 ppm					Mn	0	Mn	0	Mn	0
Zinc	2.8 ppm					Cu	0	Cu	0	Cu	0
Magnesium	2.43 ppm					Mg	0	Mg	0	Mg	0
Calcium	2262 ppm					Lime	0.0	Lime	0.0	Lime	0.0
Sodium	6308 ppm										
Organic Matter	292 ppm										
Carbonate (CCE)	5.9 %					Soil pH		Buffer pH		Cation Exchange Capacity	
Conductivity 0- 6"	2.5 % CCE									% Base Saturation (Typical Range)	
6-24"	1.17 dS/m									% Ca	% Mg
	2.79 dS/m									% K	% Na
										% H	

\*CAUTION: Seed-placed fertilizer can cause injury.\*

Estimated Soil Texture: Clay/Clay Loam (CEC range = 30+) (Fine);

Drop Nutrient Removals: Drop 1: P205 52 K2O 55 Drop 2: P205 47 K2O 50 Drop 3: P205 47 K2O 25;

AGVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.



P.O. BOX 510, NORTHWOOD, ND 58267  
(701) 587-6010

FIELD WEST MASSE SAMPLE 1  
COUNTY  
TWP SECTION  
QTR W1/2 34-9-20 ACRES 320.0  
PREV CROP CANOLA

W

S

**SUBMITTED FOR:**

STARLITE COLONY

**SUBMITTED BY:**

PI2913

STARBUCK, NB

ROG ZFO CANADA

RICHARDSON PIONEER-STARBUCK  
RAILWAY AVE  
BOX 130  
STARBUCK, NB

ROG ZFO CANADA

REF # 3054166

LAB # 141145

BOX # 221

DATE SAMPLED

DATE RECEIVED

10/ 6/20

DATE REPORTED

10/ 9/20

NUTRIENT IN THE SOIL	INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE				
	V LOW	LOW	MED	HIGH	BARLEY		WHEAT		WHEAT				
nitrate N					YIELD GOAL 110 BU		YIELD GOAL 70 BU		YIELD GOAL 75 BU				
phosphorus					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
potassium					P & K MAINTENANCE		P & K MAINTENANCE		P & K MAINTENANCE				
chloride					LB / ACRE	APPLICATION	LB / ACRE	APPLICATION	LB / ACRE	APPLICATION			
sulfur					N 37		N 55		N 69				
iron					P <sub>2</sub> O <sub>5</sub> 15	Band(Starter)*	P <sub>2</sub> O <sub>5</sub> 15	Band(Starter)*	P <sub>2</sub> O <sub>5</sub> 15	Band(Starter)*			
calcium					K <sub>2</sub> O 10	Band(Starter)*	K <sub>2</sub> O 10	Band(Starter)*	K <sub>2</sub> O 10	Band(Starter)*			
magnesium					Cl 0		Cl 0		Cl 0				
zinc					S 0		S 0		S 0				
copper					B 0		B 0		B 0				
manganese					Zn 0		Zn 0		Zn 0				
nickel					Fe 0		Fe 0		Fe 0				
boron					Mn 0		Mn 0		Mn 0				
barium					Cu 0		Cu 0		Cu 0				
strontium					Mg 0		Mg 0		Mg 0				
organic Matter					Lime 0.0		Lime 0.0		Lime 0.0				
carbonate (CCE)					Soil pH		Buffer pH		Cation Exchange Capacity				
acidic					0- 6" 7.3				% Base Saturation (Typical Range)				
alkaline					6-24" 8.0		47.7 meq/100		% Ca	% Mg	% K	% Na	% H
									(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
									60.9	34.5	2.5	1.6	0.0

\*CAUTION: Seed-placed fertilizer can cause injury.\*

Percent hydrogen is estimated from water pH, CEC corrected for exchangeable acidity;

Estimated Soil Texture: Clay/Clay Loam (CEC range = 30+) (Fine);

Drop Nutrient Removal: Crop 1: P205 52 K2O 55 Crop 2: P205 44 K2O 26 Crop 3: P205 47 K2O 28;

AGVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.





P.O. BOX 510, NORTHWOOD, ND 58267  
(701) 587-6010

FIELD TRACHYK SAMPLE 1  
COUNTY  
TWP SECTION  
QTR NE/SE 31-9-3M ACRES 400.0  
PREV CROP WHEAT

W

S

SUBMITTED FOR:

STARLITE COLONY

STARBUCK, ND

ROG ZPO CANADA

SUBMITTED BY:

PI2813

RICHARDSON PIONEER-STARBUCK  
RAILWAY AVE  
BOX 130  
STARBUCK, ND

ROG ZPO CANADA

REF # 3064191  
LAB # 141148

BOX # 221

DATE SAMPLED

DATE RECEIVED

10/ 6/20

DATE REPORTED

10/ 9/20

NUTRIENT IN THE SOIL		INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE			
		V LOW	LOW	MED	HIGH	SOYBEANS		SOYBEANS		SOYBEANS			
nitrate N	0- 6" 13 lb/acre 6-24" 21 lb/acre 0-24" 34 lb/acre	*****				YIELD GOAL 45 BU	YIELD GOAL 50 BU	YIELD GOAL 55 BU	SUGGESTED GUIDELINES				
phosphorus	9 ppm	*****				SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES				
potassium	506 ppm	*****				P & K MAINTENANCE	P & K MAINTENANCE	P & K MAINTENANCE	P & K MAINTENANCE				
chloride 6-24"	92 lb/acre	*****				LB / ACRE APPLICATION	LB / ACRE APPLICATION	LB / ACRE APPLICATION	LB / ACRE APPLICATION				
sulfur 0- 6" 6-24"	12 lb/acre 70 lb/acre	*****				N 0	N 0	N 0	N 0				
boron	1.2 ppm	*****				P <sub>2</sub> O <sub>5</sub> 34 Band #	P <sub>2</sub> O <sub>5</sub> 35 Band #	P <sub>2</sub> O <sub>5</sub> 41 Band #	P <sub>2</sub> O <sub>5</sub> 41 Band #				
calcium	6.50 ppm	*****				K <sub>2</sub> O 0	K <sub>2</sub> O 0	K <sub>2</sub> O 0	K <sub>2</sub> O 0				
iron	40.2 ppm	*****				Cl 0	Cl 0	Cl 0	Cl 0				
manganese	2.2 ppm	*****				S 7 Band (Trial)	S 7 Band (Trial)	S 7 Band (Trial)	S 7 Band (Trial)				
copper	2.01 ppm	*****				B 0	B 0	B 0	B 0				
magnesium	1992 ppm	*****				Zn 2 Band	Zn 2 Band	Zn 2 Band	Zn 2 Band				
calcium	5001 ppm	*****				Fe 0	Fe 0	Fe 0	Fe 0				
sodium	67 ppm	*****				Mn 0	Mn 0	Mn 0	Mn 0				
organic Matter	5.0 %	*****				Cu 0	Cu 0	Cu 0	Cu 0				
carbonate (CCE)	3.6 % CCE	*****				Mg 0	Mg 0	Mg 0	Mg 0				
conductivity 0- 6" 6-24"	0.62 dS/m 0.68 dS/m	*****				Lime 0.0	Lime 0.0	Lime 0.0	Lime 0.0				
						Soil pH		Buffer pH		Cation Exchange Capacity		% Base Saturation (Typical Range)	
						0- 6" 7.7						% Ca % Mg % K % Na % H	
						6-24" 8.2		47.2 meq/kg		(65-75) (15-20) (1-7) (0-3) (0-5)		61.5 35.2 2.7 0.6	

\*CAUTION: Seed-placed fertilizer can cause injury.\*

Estimated Soil Texture: Soil Texture is not estimated on high pH soils;

Soybean may respond to nitrogen if NDT-N is less than 60 lb/acre and soybean history is limited;

Soybean iron deficiency chlorosis (IDC) risk is high based on soil carbonate and salinity;

Crop Nutrient Removal: Crop 1: P205 34 K2O 53 Crop 2: P205 38 K2O 59 Crop 3: P205 41 K2O 65;

AGVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.



P.O. BOX 510, NORTHWOOD, ND 58267  
(701) 567-6010

FIELD 5 CHIPTWA  
COUNTY  
TWP  
QTR 5/2 22-10-2M  
PREV CROP SOYBEANS

SAMPLE 1  
SECTION  
ACRES 320.0

W

S

SUBMITTED FOR:

STARLITE COLONY

SUBMITTED BY:

P12B13

RICHARDSON PIONEER-STARBUCK  
RAILWAY AVE  
BOX 130  
STARBUCK, ND

REF # 3064226  
LAB # 141149

BOX # 221

DATE SAMPLED

DATE RECEIVED

10/ 6/20

DATE REPORTED

10/ 9/20

NUTRIENT IN THE SOIL	INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE				
	V LOW	LOW	MED	HIGH	BARLEY		BARLEY		CORN				
Nitrate N					YIELD GOAL 100 BU		YIELD GOAL 110 BU		YIELD GOAL 55 BU				
Ammonium N					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
Phosphorus					P & K MAINTENANCE		P & K MAINTENANCE		P & K MAINTENANCE				
Potassium					LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Chloride 0-24"					N	111	N	127	N	134			
Sulfur					P <sub>2</sub> O <sub>5</sub>	47 Band *	P <sub>2</sub> O <sub>5</sub>	51 Band *	P <sub>2</sub> O <sub>5</sub>	49 Band *			
Boron					K <sub>2</sub> O	10 Band(Starter)*	K <sub>2</sub> O	10 Band(Starter)*	K <sub>2</sub> O	0			
Calcium					Cl	0	Cl	0	Cl	0			
Magnesium					S	0	S	0	S	15 Band			
Zinc					B	0	B	0	B	0			
Copper					Zn	1 Band	Zn	1 Band	Zn	1 Band			
Manganese					Fe	0	Fe	0	Fe	0			
Iron					Mn	0	Mn	0	Mn	0			
Organic Matter					Cu	0	Cu	0	Cu	0			
Carbonate (CCE)					Mg	0	Mg	0	Mg	0			
Electrical Conductivity (EC) 0-6"					Lime	0.0	Lime	0.0	Lime	0.0			
Electrical Conductivity (EC) 6-24"					Soil pH		Buffer pH		Cation Exchange Capacity				
					0-6"	7.5			% Base Saturation (Typical Range)				
					6-24"	8.1	49.8 meq/kg		% Ca	% Mg	% K	% Na	% H
									(63-75)	(15-20)	(1-7)	(0-5)	(0-5)
									60.1	35.8	2.6	1.5	

\*CAUTION: Seed-placed fertilizer can cause injury.\*

Estimated Soil Texture: Clay/Clay Loam (CEC range = 30+) (Fine);

Nitrogen credits granted: Crop 1 = 15 Crop 2 = 15 Crop 3 = 30 May be adjusted based on local conditions;

Crop Nutrient Removals: Crop 1: P205 47 K2O 50 Crop 2: P205 52 K2O 55 Crop 3: P205 50 K2O 25;

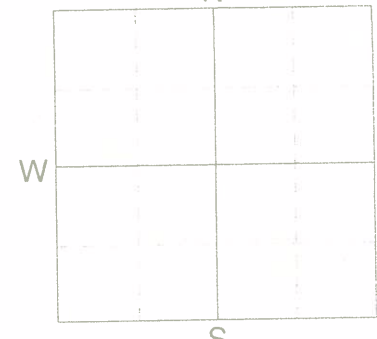
ADVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.



P.O. BOX 510, NORTHWOOD, ND 58267  
(701) 567-6010

# SOIL TEST REPORT

FIELD NW SW FRIESEN SAMPLE 1  
 COUNTY SECTION  
 TWP ACRES 310.0  
 QTR W1/2 29-9-2W  
 PREV CROP SOYBEANS



**SUBMITTED FOR:**

STARLITE COLONY

STARBUCK, ND

ROG ZPO CANADA

**SUBMITTED BY:**

P12B13

RICHARDSON PIONEER-STARBUCK  
 RAILWAY AVE  
 BOX 130  
 STARBUCK, ND

ROG ZPO CANADA

REF # 3064171

LAB # 141147

BOX # 226

DATE SAMPLED

DATE RECEIVED 10/ 6/20

DATE REPORTED 10/ 9/20

NUTRIENT IN THE SOIL		INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE					
		V LOW	LOW	MED	HIGH	GRAIN CORN		GRAIN CORN		GRAIN CORN					
Nitrate N	0- 6" 29 lb/acre 6-24" 27 lb/acre 0-24" 56 lb/acre					YIELD GOAL 170 BU		YIELD GOAL 150 BU		YIELD GOAL 130 BU					
Phosphorus	69 ppm					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES					
Potassium	565 ppm					P & K MAINTENANCE		P & K MAINTENANCE		P & K MAINTENANCE					
Chloride	0-24" 190 lb/acre					LB / ACRE	APPLICATION	LB / ACRE	APPLICATION	LB / ACRE	APPLICATION				
Sulfur	0- 6" 30 lb/acre 6-24" 96 lb/acre					N	118	N	94	N	70				
Boron	1.2 ppm					P <sub>2</sub> O <sub>5</sub>	15 Band (2x2) *	P <sub>2</sub> O <sub>5</sub>	15 Band (2x2) *	P <sub>2</sub> O <sub>5</sub>	15 Band (2x2) *				
Zinc	2.87 ppm					K <sub>2</sub> O	10 Band (2x2) *	K <sub>2</sub> O	10 Band (2x2) *	K <sub>2</sub> O	10 Band (2x2) *				
Iron	52.5 ppm					Cl	0	Cl	0	Cl	0				
Manganese	4.0 ppm					S	0	S	0	S	0				
Copper	2.66 ppm					B	0	B	0	B	0				
Magnesium	1753 ppm					Zn	0	Zn	0	Zn	0				
Calcium	5615 ppm					Fe	0	Fe	0	Fe	0				
Sodium	104 ppm					Mn	0	Mn	0	Mn	0				
Organic Matter	5.4 %					Cu	0	Cu	0	Cu	0				
Carbonate (CCE)	2.2 % CCE					Mg	0	Mg	0	Mg	0				
Soluble Salts	0- 6" 0.75 dS/m 6-24" 0.95 dS/m					Lime	0.0	Lime	0.0	Lime	0.0				
						Soil pH		Buffer pH		Cation Exchange Capacity		% Base Saturation (Typical Range)			
						0- 6"	7.1			45.3 meq/kg	% Ca	% Mg	% K	% Na	%
						6-24"	7.9				(45-75)	(15-20)	(1-7)	(0-5)	(0-)
											62.0	32.8	3.5	1.0	0.

\*CAUTION: Seed-placed fertilizer can cause injury.\*

Percent hydrogen is estimated from water pH, CEC corrected for exchangeable acidity;

Estimated Soil Texture: Clay/Clay Loam (CEC range = 30+) (Fine);

Nitrogen credits granted: Crop 1 = 30 Crop 2 = 30 Crop 3 = 30 May be adjusted based on local conditions;

In no-till or reduced tillage systems, an additional 30 lb/acre nitrogen may increase corn yield;

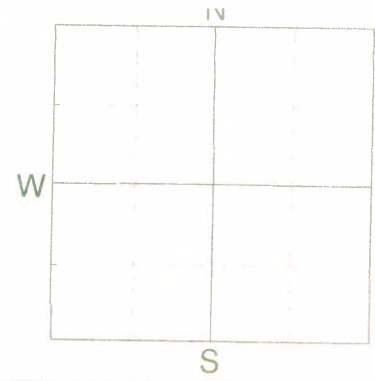
Crop Nutrient Removal: Crop 1: P205 63 K2O 39 Crop 2: P205 56 K2O 35 Crop 3: P205 48 K2O 30.



P.O. BOX 510, NORTHWOOD, ND 58267  
(701) 587-6010

# SOIL TEST REPORT

FIELD RICK SAMPLE 1  
 COUNTY  
 TWP SECTION  
 QTR SW 10-10-2W ACRES 160.0  
 PREV CROP WHEAT



SUBMITTED FOR:

STARLITE COLONY

SUBMITTED BY:

PI2813

RICHARDSON PIONEER-STARBU  
 RAILWAY AVE  
 BOX 130  
 STARBUCK, ND

STARBUCK, ND

ROG ZFO CANADA

ROG ZFO CANADA

REF # 3019623

LAB # 104454

BOX # 10675

DATE SAMPLED

DATE RECEIVED

9/24/20

DATE REPORTED

9/25/20

NUTRIENT IN THE SOIL		INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE	
		V LOW	LOW	MED	HIGH	CANOLA		CANOLA		CANOLA	
Nitrate N	0-6" 26 lb/acre 6-24" 33 lb/acre 0-24" 59 lb/acre					YIELD GOAL 50 BU		YIELD GOAL 55 BU		YIELD GOAL 60 BU	
Phosphorus	31 ppm					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINE	
Potassium	475 ppm					P & K MAINTENANCE		P & K MAINTENANCE		P & K MAINTENANCE	
Chloride	0-24" 88 lb/acre					LB / ACRE	APPLICATION	LB / ACRE	APPLICATION	LB / ACRE	APPLICATION
Sulfur	0-6" 16 lb/acre 6-24" 162 lb/acre					N	116	N	134	N	151
Boron	1.5 ppm					P <sub>2</sub> O <sub>5</sub>	45 Band #	P <sub>2</sub> O <sub>5</sub>	49 Band #	P <sub>2</sub> O <sub>5</sub>	54 Band #
Zinc	2.65 ppm					K <sub>2</sub> O	0	K <sub>2</sub> O	0	K <sub>2</sub> O	0
Copper	37.0 ppm					Cl	0	Cl	0	Cl	0
Manganese	1.4 ppm					S	15 Band	S	15 Band	S	15 Band
Iron	2.21 ppm					B	0	B	0	B	0
Magnesium	1929 ppm					Zn	0	Zn	0	Zn	0
Calcium	5600 ppm					Fe	0	Fe	0	Fe	0
Sodium	138 ppm					Mn	0	Mn	0	Mn	0
Organic Matter	6.0 %					Cu	0	Cu	0	Cu	0
Carbonate (CCE)	1.8 % CCE					Mg	0	Mg	0	Mg	0
Water Soluble	0-6" 0.63 dS/m					Lime	0.0	Lime	0.0	Lime	0.0
Salts	6-24" 0.79 dS/m										

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 7.7		45.9 meq/kg	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
6-24" 8.3			61.0	35.0	2.7	1.3	

**CAUTION: Seed-placed fertilizer can cause injury.**

Estimated Soil Texture: Soil Texture is not estimated on high pH soils;

Crop Nutrient Removal: Crop 1: P205 45 K2O 23 Crop 2: P205 50 K2O 25 Crop 3: P205 54 K2O 27;

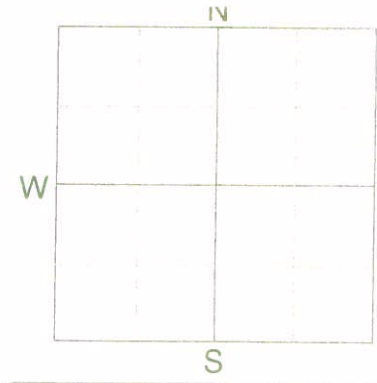
AGVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.



P.O. BOX 510, NORTHMOOD, ND 58267  
(701) 587-6010

# SOIL TEST REPORT

FIELD FOSSAY AFB SAMPLE 1  
 COUNTY  
 TWP SECTION  
 QTR NE/SE 33-9-2W ACRES 220.0  
 PREV CROP WHEAT



**SUBMITTED FOR:**

STARLITE COLONY

STARBUCK, NB

ROG ZFO CANADA

**SUBMITTED BY:**

PI2813

RICHARDSON PIONEER-STARBU  
 RAILWAY AVE  
 BOX 130  
 STARBUCK, NB

ROG ZFO CANADA

REF # 3019625

LAB # 104455

BOX # 10675

DATE SAMPLED

DATE RECEIVED

9/24/20

DATE REPORTED

9/25/20

NUTRIENT IN THE SOIL		INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE				
		V LOW	LOW	MED	HIGH	CANOLA		CANOLA		CANOLA				
Nitrate N	0-6"	41 lb/acre				YIELD GOAL 50 BU		YIELD GOAL 55 BU		YIELD GOAL 60 BU				
	6-24"	42 lb/acre				SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINE				
	0-24"	83 lb/acre				P & K MAINTENANCE		P & K MAINTENANCE		P & K MAINTENANCE				
						LB / ACRE	APPLICATION	LB / ACRE	APPLICATION	LB / ACRE	APPLICATION			
Phosphorus	33 ppm					N	92	N	110	N	127			
Potassium	422 ppm					P <sub>2</sub> O <sub>5</sub>	45 Band *	P <sub>2</sub> O <sub>5</sub>	49 Band *	P <sub>2</sub> O <sub>5</sub>	54 Band *			
Chloride	168 lb/acre					K <sub>2</sub> O	0	K <sub>2</sub> O	0	K <sub>2</sub> O	0			
Sulfur	22 lb/acre					Cl	0	Cl	0	Cl	0			
	42 lb/acre					S	15 Band	S	15 Band	S	15 Band			
Boron	1.2 ppm					B	0	B	0	B	0			
Zinc	3.07 ppm					Zn	0	Zn	0	Zn	0			
Copper	79.3 ppm					Fe	0	Fe	0	Fe	0			
Manganese	3.1 ppm					Mn	0	Mn	0	Mn	0			
Copper	2.66 ppm					Cu	0	Cu	0	Cu	0			
Magnesium	1765 ppm					Mg	0	Mg	0	Mg	0			
Calcium	4906 ppm					Lime	0.0	Lime	0.0	Lime	0.0			
Sodium	142 ppm													
Organic Matter	6.6 %													
Carbonate (CCE)	0.9 % CCE													
Soluble Salts	0-6"	0.66 dS/m				Soil pH	7.2	Cation Exchange Capacity	41.3 meq/kg	% Base Saturation (Typical Range)				
	6-24"	0.72 dS/m				6-24"	7.9			% Ca	% Mg	% K	% Na	% H
										(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
										59.4	35.6	3.0	1.5	0.4

**\*CAUTION: Seed-placed fertilizer can cause injury.\***

Percent hydrogen is estimated from water pH, CEC corrected for exchangeable acidity;

Estimated Soil Texture: Clay/Clay Loam (CEC range = 30+) (Fine);

Crop Nutrient Removal: Crop 1: P205 45 K2O 23 Crop 2: P205 50 K2O 25 Crop 3: P205 54 K2O 27;

AGVISE Band/Maint guideline will build F & K test levels to the medium range over several years and then maintain them.

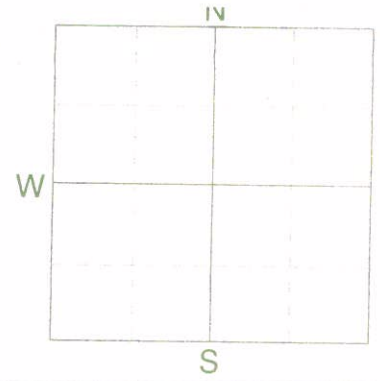




P.O. BOX 510, NORTHWOOD, ND 58267  
(701) 587-6010

# SOIL TEST REPORT

FIELD WURTCR SAMPLE 1  
 COUNTY  
 TWP SECTION  
 QTR N1/2 32-9-2W ACRES 240.0  
 PREV CROP BARLEY



**SUBMITTED FOR:**

STARLITE COLONY

STARBUCK, ND

ROG ZFO CANADA

**SUBMITTED BY:**

PI2813

RICHARDSON PIONEER-STARBU  
 RAILWAY AVE  
 BOX 130  
 STARBUCK, ND

ROG ZFO CANADA

REF # 3019631

LAB # 104456

BOX # 10675

DATE SAMPLED

DATE RECEIVED

9/24/20

DATE REPORTED

9/25/20

NUTRIENT IN THE SOIL		INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE	
		V LOW	LOW	MED	HIGH	CANOLA		CANOLA		CANOLA	
Nitrate N	0-6" 19 lb/acre 6-24" 21 lb/acre 0-24" 40 lb/acre					YIELD GOAL 50 BU	YIELD GOAL 55 BU	YIELD GOAL 60 BU	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINE
						P & K MAINTENANCE		P & K MAINTENANCE		P & K MAINTENANCE	
						LB/ACRE APPLICATION	LB/ACRE APPLICATION	LB/ACRE APPLICATION			
Phosphorus	22 ppm					N 135	N 153	N 170			
Potassium	465 ppm					P <sub>2</sub> O <sub>5</sub> 45 Band *	P <sub>2</sub> O <sub>5</sub> 49 Band *	P <sub>2</sub> O <sub>5</sub> 54 Band *			
Chloride	0-24" 64 lb/acre					K <sub>2</sub> O 0	K <sub>2</sub> O 0	K <sub>2</sub> O 0			
Sulfur	0-6" 18 lb/acre 6-24" 60 lb/acre					Cl 0	Cl 0	Cl 0			
Boron	1.2 ppm					S 15 Band	S 15 Band	S 15 Band			
Manganese	1.57 ppm					B 0	B 0	B 0			
Zinc	39.9 ppm					Zn 1 Band	Zn 1 Band	Zn 1 Band			
Copper	2.3 ppm					Fe 0	Fe 0	Fe 0			
Magnesium	1857 ppm					Mn 0	Mn 0	Mn 0			
Calcium	5924 ppm					Cu 0	Cu 0	Cu 0			
Sodium	104 ppm					Mg 0	Mg 0	Mg 0			
Organic Matter	5.6 %					Lime 0.0	Lime 0.0	Lime 0.0			
Carbonate (CCE)	1.5 % CCE										
Water Soluble	0-6" 0.70 dS/m alts 6-24" 0.69 dS/m										

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 7.5		46.7 meq/kg	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
6-24" 8.2			63.4	33.1	2.6	1.0	

**CAUTION: Seed-placed fertilizer can cause injury.**

Estimated Soil Texture: Clay/Clay Loam (CEC range = 30+) (Fine);

Crop Nutrient Removal: Crop 1: P205 45 K2O 23 Crop 2: P205 50 K2O 25 Crop 3: P205 54 K2O 27;

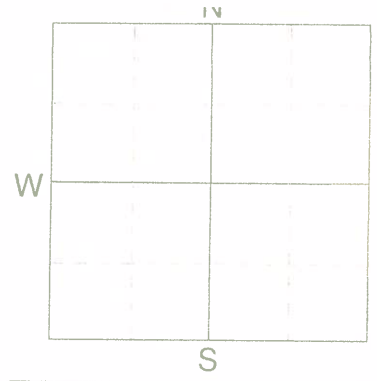
AGVISE Band/Maint guideline will build F & K test levels to the medium range over several years and then maintain them.



P.O. BOX 510, NORTHWOOD, MD 58267  
(701) 597-6010

# SOIL TEST REPORT

FIELD NUMBER: SAMPLE 1  
 COUNTY: \_\_\_\_\_  
 TWP: \_\_\_\_\_ SECTION: \_\_\_\_\_  
 QTR: E1/2 2-10-3W ACRES: 200.0  
 PREV CROP: CANOLA



**SUBMITTED FOR:**

STARLITE COLONY

STARBUCK, MB

ROG ZFO CANADA

**SUBMITTED BY:**

PI28L3

RICHARDSON PIONEER-STARBU  
 RAILWAY AVE  
 BOX 130  
 STARBUCK, MB

ROG ZFO CANADA

REF # 3019636

LAB # 104457

BOX # 10689

DATE SAMPLED

DATE RECEIVED

9/24/20

DATE REPORTED

9/25/20

NUTRIENT IN THE SOIL		INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE			
		V LOW	LOW	MED	HIGH	WHEAT		WHEAT		WHEAT			
Nitrate N	0-6" 15 lb/acre					YIELD GOAL 70 BU		YIELD GOAL 75 BU		YIELD GOAL 80 BU			
	6-24" 30 lb/acre					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINE			
	0-24" 45 lb/acre					P & K MAINTENANCE LB/ACRE APPLICATION		P & K MAINTENANCE LB/ACRE APPLICATION		P & K MAINTENANCE LB/ACRE APPLICATION			
Phosphorus	6 ppm					N 144	N 158	N 171					
Potassium	426 ppm					P <sub>2</sub> O <sub>5</sub> 45 Band #	P <sub>2</sub> O <sub>5</sub> 48 Band #	P <sub>2</sub> O <sub>5</sub> 52 Band #					
Chloride	0-24" 224 lb/acre					K <sub>2</sub> O 10 Band(Starter)*	K <sub>2</sub> O 10 Band(Starter)*	K <sub>2</sub> O 10 Band(Starter)*					
Sulfur	0-6" 36 lb/acre					Cl 0	Cl 0	Cl 0					
	6-24" 360+ lb/acre					S 0	S 0	S 0					
Boron	1.7 ppm					B 0	B 0	B 0					
Zinc	0.35 ppm					Zn 0	Zn 1 Band	Zn 1 Band					
Cadmium	25.2 ppm					Fe 0	Fe 0	Fe 0					
Manganese	1.5 ppm					Mn 0	Mn 0	Mn 0					
Copper	2.06 ppm					Cu 0	Cu 0	Cu 0					
Magnesium	1906 ppm					Mg 0	Mg 0	Mg 0					
Calcium	6430 ppm					Lime 0.0	Lime 0.0	Lime 0.0					
Sodium	96 ppm												
Organic Matter	5.0 %												
Carbonate (CCE)	6.2 % CCE												
Soluble Salts	0-6" 0.63 dS/m					Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
	6-24" 1.20 dS/m					0-6" 8.1		49.5 meq/kg	% Ca	% Mg	% K	% Na	% H
						6-24" 8.2			(65-75)	(15-20)	(1-7)	(0-5)	(0-5)

**CAUTION: Seed-placed fertilizer can cause injury.**

Estimated Soil Texture: Soil Texture is not estimated on high pH soils;

Crop Nutrient Removal: Crop 1: P205 44 K2O 26 Crop 2: P205 47 K2O 28 Crop 3: P205 50 K2O 30;

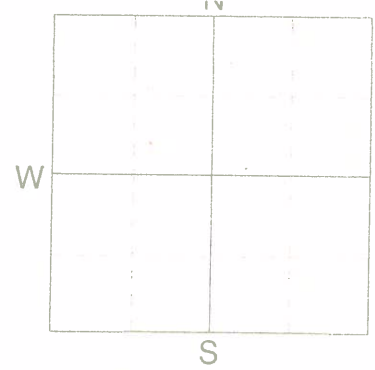
AGVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.



P.O. BOX 510, NORTHMOOD, MD 55267  
(701) 597-6010

# SOIL TEST REPORT

FIELD SCHADE SAMPLE 1  
 COUNTY  
 TWP SECTION  
 QTR W1/2 20-9-2W ACRES 250.0  
 PREV CROP WHEAT



**SUBMITTED FOR:**

STARLITE COLONY

**SUBMITTED BY:**

PI2813  
 RICHARDSON PIONEER-STARBU  
 RAILWAY AVE  
 BOX 130  
 STARBUCK, MB

PI2813

STARBUCK, MB

ROG ZFO CANADA

ROG ZFO CANADA

REF # 3019642

LAB # 104458

BOX # 10666

DATE SAMPLED

DATE RECEIVED

9/24/20

DATE REPORTED

9/25/20

NUTRIENT IN THE SOIL		INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE	
		V LOW	LOW	MED	HIGH	CANOLA		CANOLA		CANOLA	
Nitrate N	0-6" 14 lb/acre 6-12" 15 lb/acre 0-24" 20 lb/acre					YIELD GOAL 50 BU	YIELD GOAL 55 BU	YIELD GOAL 60 BU	SUGGESTED GUIDELINE: P & K MAINTENANCE		
Phosphorus	9 ppm					SUGGESTED GUIDELINES P & K MAINTENANCE		SUGGESTED GUIDELINES P & K MAINTENANCE		SUGGESTED GUIDELINE: P & K MAINTENANCE	
Potassium	460 ppm					LB/ACRE APPLICATION	LB/ACRE APPLICATION	LB/ACRE APPLICATION	LB/ACRE APPLICATION	LB/ACRE APPLICATION	LB/ACRE APPLICATION
Chloride 0-24"	68 lb/acre					N 146	N 164	N 181			
Sulfur 0-6"	8 lb/acre					P <sub>2</sub> O <sub>5</sub> 45 Band *	P <sub>2</sub> O <sub>5</sub> 49 Band *	P <sub>2</sub> O <sub>5</sub> 54 Band *			
Sulfur 6-24"	36 lb/acre					K <sub>2</sub> O 0	K <sub>2</sub> O 0	K <sub>2</sub> O 0			
Boron	1.1 ppm					Cl 0	Cl 0	Cl 0			
Zinc	0.32 ppm					S 7 Band	S 17 Band	S 17 Band			
Copper	2.07 ppm					B 0	B 0	B 0			
Magnesium	1953 ppm					Zn 1 Band	Zn 1 Band	Zn 1 Band			
Calcium	5530 ppm					Fe 0	Fe 0	Fe 0			
Sodium	90 ppm					Mn 0	Mn 0	Mn 0			
Organic Matter	4.3 %					Cu 0	Cu 0	Cu 0			
Carbonate (CCE)	2.4 % CCE					Mg 0	Mg 0	Mg 0			
Soluble 0-6"	0.59 dS/m					Lime 0.0	Lime 0.0	Lime 0.0			
Salts 6-24"	0.62 dS/m										

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 7.9		45.5 meq/kg	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
6-24" 8.3			60.8	35.6	2.6	0.9	

**\*CAUTION: Seed-placed fertilizer can cause injury.\***

Estimated Soil Textures: Soil Texture is not estimated on high pH soils;

Crop Nutrient Removal: Crop 1: P205 45 K2O 23 Crop 2: P205 50 K2O 25 Crop 3: P205 54 K2O 27;

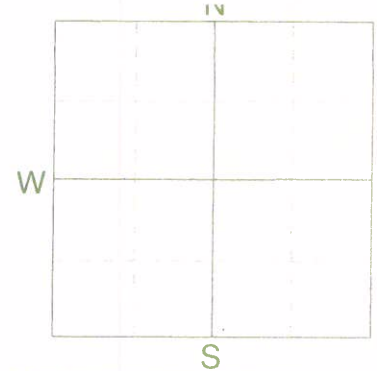
AGVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.



P.O. BOX 510, NORTHWOOD, ND 58267  
(701) 597-6010

# SOIL TEST REPORT

FIELD & DICK SAMPLE 1  
 COUNTY  
 TWP SECTION  
 QTR W1/2 26-9-3W ACRES 312.0  
 PREV CROP WHEAT



**SUBMITTED FOR:**

STARLITE COLONY

**SUBMITTED BY:**

PI2813

STARBUCK, NB

ROG ZFO CANADA

RICHARDSON PIONEER-STARBU  
 RAILWAY AVE  
 BOX 130  
 STARBUCK, NB

ROG ZFO CANADA

REF # 3019647

LAB # 104459

BOX # 10675

DATE SAMPLED

DATE RECEIVED

9/24/20

DATE REPORTED

9/25/20

NUTRIENT IN THE SOIL		INTERPRETATION				1ST CROP CHOICE			2ND CROP CHOICE			3RD CROP CHOICE			
		V	LOW	MED	HIGH	CANOLA			CANOLA			CANOLA			
Nitrate N	0-6"	17	lb/acre			YIELD GOAL	50 BU		YIELD GOAL	55 BU		YIELD GOAL	60 BU		
	6-24"	27	lb/acre			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINE			
	0-24"	44	lb/acre			P & K MAINTENANCE			P & K MAINTENANCE			P & K MAINTENANCE			
						LB / ACRE	APPLICATION		LB / ACRE	APPLICATION		LB / ACRE	APPLICATION		
						N	131		N	149		N	166		
Phosphorus	19 ppm					P <sub>2</sub> O <sub>5</sub>	45	Band *	P <sub>2</sub> O <sub>5</sub>	49	Band *	P <sub>2</sub> O <sub>5</sub>	54	Band *	
Potassium	443 ppm					K <sub>2</sub> O	0		K <sub>2</sub> O	0		K <sub>2</sub> O	0		
Chloride	0-24"	680	lb/acre			Cl	0		Cl	0		Cl	0		
Sulfur	0-6"	12	lb/acre			S	17	Band	S	17	Band	S	17	Band	
	6-24"	174	lb/acre			B	0		B	0		B	0		
Boron	1.1 ppm					Zn	0		Zn	0		Zn	0		
Calcium	0.72 ppm					Fe	0		Fe	0		Fe	0		
Magnesium	36.7 ppm					Mn	0		Mn	0		Mn	0		
Manganese	2.9 ppm					Cu	0		Cu	0		Cu	0		
Copper	2.27 ppm					Mg	0		Mg	0		Mg	0		
Sodium	1632 ppm					Lime	0.0		Lime	0.0		Lime	0.0		
	5091 ppm														
	105 ppm														
Organic Matter	6.2 %														
Carbonate (CCE)	0.7 % CCE														
Soluble Salts	0-6"	0.72	dS/m			Soil pH	7.2		Cation Exchange Capacity	40.8 meq/kg	% Base Saturation (Typical Range)				
	6-24"	1.21	dS/m			Buffer pH	7.8	% Ca			% Mg	% K	% Na	% H	

**CAUTION: Seed-placed fertilizer can cause injury.†**

Percent hydrogen is estimated from water pH, CEC corrected for exchangeable acidity;

Estimated Soil Textures: Clay/Clay Loam (CEC range = 30+) (Fine);

Crop Nutrient Removal: Crop 1: P205 45 K2O 23 Crop 2: P205 50 K2O 25 Crop 3: P205 54 K2O 27;

AGVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.



F.O. BOX 510, NORTHWOOD, MD 58267  
(701) 587-6010

# SOIL TEST REPORT

FIELD OLSON SAMPLE 1  
 COUNTY SECTION  
 TWP SECTION  
 QTR SW 21-9-2W ACRES 130.0  
 PREV CROP ALFALFA SEED

W

S

SUBMITTED FOR:

STARLITE COLONY

SUBMITTED BY:

PT2813

STARBUCK, MB

ROG ZFO CANADA

RICHARDSON PIONEER-STARBU  
 RAILWAY AVE  
 BOX 130  
 STARBUCK, MB

ROG ZFO CANADA

REF # 3019660

LAB # 104460

BOX # 10646

DATE SAMPLED

DATE RECEIVED

9/24/20

DATE REPORTED

9/25/20

NUTRIENT IN THE SOIL		INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE			
		V LOW	LOW	MED	HIGH	WHEAT		WHEAT		WHEAT			
Nitrate N	0-6" 17 lb/acre 6-24" 36 lb/acre 0-24" 53 lb/acre					YIELD GOAL 70 BU	YIELD GOAL 75 BU	YIELD GOAL 80 BU	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES		
Phosphorus	10 ppm					P & K MAINTENANCE LB/ACRE APPLICATION	P & K MAINTENANCE LB/ACRE APPLICATION	P & K MAINTENANCE LB/ACRE APPLICATION					
Potassium	477 ppm					N 136	N 150	N 163					
Chloride	0-24" 96 lb/acre					P <sub>2</sub> O <sub>5</sub> 43 Band *	P <sub>2</sub> O <sub>5</sub> 46 Band *	P <sub>2</sub> O <sub>5</sub> 50 Band *					
Sulfur	0-6" 12 lb/acre 6-24" 24 lb/acre					K <sub>2</sub> O 10 Band(Starter)*	K <sub>2</sub> O 10 Band(Starter)*	K <sub>2</sub> O 10 Band(Starter)*					
Boron	1.1 ppm					Cl 0	Cl 0	Cl 0					
Zinc	0.44 ppm					S 7 Band (Trial)	S 7 Band (Trial)	S 7 Band (Trial)					
Copper	2.00 ppm					B 0	B 0	B 0					
Magnesium	1605 ppm					Zn 0	Zn 1 Band	Zn 1 Band					
Calcium	5880 ppm					Fe 0	Fe 0	Fe 0					
Sodium	65 ppm					Mn 0	Mn 0	Mn 0					
Organic Matter	5.9 %					Cu 0	Cu 0	Cu 0					
Carbonate (CCE)	2.3 % CCE					Mg 0	Mg 0	Mg 0					
Electrical Conductivity	0-6" 0.84 dS/m 6-24" 0.67 dS/m					Lime 0.0	Lime 0.0	Lime 0.0					
						Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
						0-6" 7.6			% Ca	% Mg	% K	% Na	% H
						6-24" 8.1		44.3 meq/kg	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
									66.4	30.2	2.8	0.6	

CAUTION: Seed-placed fertilizer can cause injury.

Estimated Soil Texture: Clay/Clay Loam (CEC range = 30+) (Fine);

Crop Nutrient Removal: Crop 1: P2O5 44 K2O 26 Crop 2: P2O5 47 K2O 28 Crop 3: P2O5 50 K2O 30;

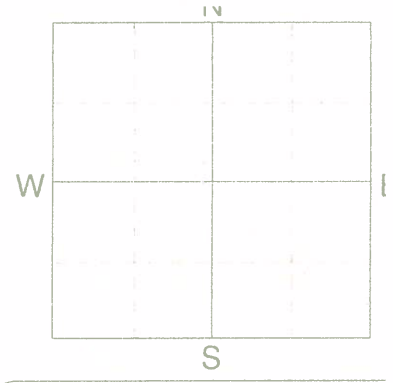
AGVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.



P.O. BOX 510, NORTHWOOD, ND 58267  
(701) 587-6010

# SOIL TEST REPORT

FIELD SE COULLEE SAMPLE 1  
 COUNTY  
 TWP SECTION  
 QTR SE 36-9-3W ACRES 160.0  
 PREV CROP CANOLA



**SUBMITTED FOR:**

STARLITE COLONY

STARBUCK, NB

ROG ZPO CANADA

**SUBMITTED BY:**

PI2813

RICHARDSON PIONEER-STARBU  
 RAILWAY AVE  
 BOX 130  
 STARBUCK, NB

ROG ZPO CANADA

REF # 3019665

LAB # 104461

BOX # 10484

DATE SAMPLED

DATE RECEIVED

9/24/20

DATE REPORTED

9/25/20

NUTRIENT IN THE SOIL	INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE	
	V LOW	LOW	MED	HIGH	WHEAT		WHEAT		WHEAT	
0-6" Nitrate N	35 lb/acre				YIELD GOAL 70 BU	YIELD GOAL 75 BU	YIELD GOAL 80 BU			
6-24" Nitrate N	102 lb/acre				SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES			
0-24" Nitrate N	137 lb/acre				P & K MAINTENANCE	P & K MAINTENANCE	P & K MAINTENANCE			
					LB / ACRE APPLICATION	LB / ACRE APPLICATION	LB / ACRE APPLICATION			
0-6" Phosphorus	31 ppm				N 52	N 66	N 79			
6-24" Phosphorus					P <sub>2</sub> O <sub>5</sub> 43 Band #	P <sub>2</sub> O <sub>5</sub> 46 Band #	P <sub>2</sub> O <sub>5</sub> 50 Band #			
Potassium	558 ppm				K <sub>2</sub> O 10 Band(Starter)*	K <sub>2</sub> O 10 Band(Starter)*	K <sub>2</sub> O 10 Band(Starter)*			
Chloride 0-24"	132 lb/acre				Cl 0	Cl 0	Cl 0			
Sulfur 0-6"	34 lb/acre				S 0	S 0	S 0			
6-24" Sulfur	90 lb/acre				B 0	B 0	B 0			
Boron	1.3 ppm				Zn 0	Zn 1 Band	Zn 1 Band			
Calcium	1.52 ppm				Fe 0	Fe 0	Fe 0			
Cobalt	49.4 ppm				Mn 0	Mn 0	Mn 0			
Copper	4.9 ppm				Cu 0	Cu 0	Cu 0			
Magnesium	2.75 ppm				Mg 0	Mg 0	Mg 0			
Sodium	2179 ppm				Lime 0	Lime 0.0	Lime 0.0			
	5006 ppm									
	85 ppm									
Organic Matter	6.2 %									
Carbonate (CCE)	2.0 % CCE									
Electrical Conductivity (EC) 0-6"	0.80 dS/m									
6-24"	0.82 dS/m									

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 7.3		45.0 meq/kg	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
6-24" 8.0			55.6	40.4	3.2	0.8	0.0

**\*CAUTION: Seed-placed fertilizer can cause injury.\***

Percent hydrogen is estimated from water pH, CEC corrected for exchangeable acidity;

Estimated Soil Texture: Clay/Clay Loam (CEC range = 30+) (Fine);

Crop Nutrient Removal: Crop 1: P205 44 K2O 26 Crop 2: P205 47 K2O 28 Crop 3: P205 50 K2O 30;

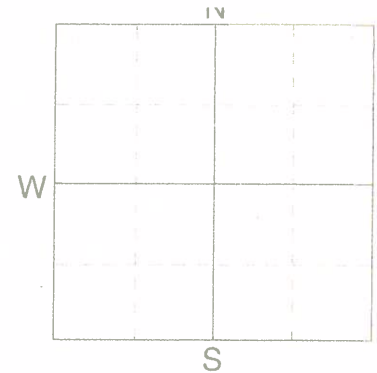
AGVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.



P.O. BOX 510, NORTHWOOD, ND 58267  
(701) 537-6010

# SOIL TEST REPORT

FIELD LEN ARNEL SAMPLE 1  
 COUNTY  
 TWP SECTION  
 QTR N1/2 30-9-3M ACRES 310.0  
 PREV CROP WHEAT



**SUBMITTED FOR:**

STARLITE COLONY

STARBUCK, ND ROG 2FO CANADA

**SUBMITTED BY:**

PI2B13

RICHARDSON PIONEER-STARBU  
 RAILWAY AVE  
 BOX 130  
 STARBUCK, ND ROG 2FO CANADA

REF # 306A177

LAB # 145598

BOX # 695

DATE SAMPLED

DATE RECEIVED

10/ 7/20

DATE REPORTED

10/10/20

NUTRIENT IN THE SOIL		INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE	
		V LOW	LOW	MED	HIGH	SOYBEANS		SOYBEANS		SOYBEANS	
Nitrate N	0- 6" 16 lb/acre					YIELD GOAL 45 BU	YIELD GOAL 50 BU	YIELD GOAL 55 BU			
	6-24" 27 lb/acre					SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES			
	0-24" 43 lb/acre					P & K MAINTENANCE	P & K MAINTENANCE	P & K MAINTENANCE			
						LB / ACRE APPLICATION	LB / ACRE APPLICATION	LB / ACRE APPLICATION			
Phosphorus	10 ppm					N 0	N 0	N 0			
Potassium	538 ppm					P <sub>2</sub> O <sub>5</sub> 33 Band #	P <sub>2</sub> O <sub>5</sub> 37 Band #	P <sub>2</sub> O <sub>5</sub> 41 Band #			
Chloride	0-24" 160 lb/acre					K <sub>2</sub> O 0	K <sub>2</sub> O 0	K <sub>2</sub> O 0			
Sulfur	0- 6" 16 lb/acre					Cl 0	Cl 0	Cl 0			
	6-24" 40 lb/acre					S 5 Band (Trial)	S 5 Band (Trial)	S 5 Band (Trial)			
Boron	1.2 ppm					B 0	B 0	B 0			
Zinc	0.69 ppm					Zn 0	Zn 0	Zn 0			
Copper	56.1 ppm					Fe 0	Fe 0	Fe 0			
Manganese	3.9 ppm					Mn 0	Mn 0	Mn 0			
Nickel	2.60 ppm					Cu 0	Cu 0	Cu 0			
Magnesium	1681 ppm					Mg 0	Mg 0	Mg 0			
Calcium	5525 ppm					Lime 0.0	Lime 0.0	Lime 0.0			
Sodium	65 ppm										
Organic Matter	5.9 %										
Carbonate (CCE)	1.6 % CCE										
Electrical Conductivity (EC)	0.62 dS/m										
Salinity	6-24" 0.58 dS/m										

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0- 6" 7.4		43.6 meq/kg	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
6-24" 8.0			64.1	32.1	3.2	0.6	

**\*CAUTION: Seed-placed fertilizer can cause injury.\***

Estimated Soil Texture: (Clay/Clay Loam (CEC range = 30+) (Fine);

Soybean may respond to nitrogen if N03-N is less than 60 lb/acre and soybean history is limited;

Soybean iron deficiency chlorosis (IDC) risk is moderate based on soil carbonate and salinity;

Crop Nutrient Removals: Crop 1: P2O5 34 K2O 53 Crop 2: P2O5 36 K2O 59 Crop 3: P2O5 41 K2O 65;

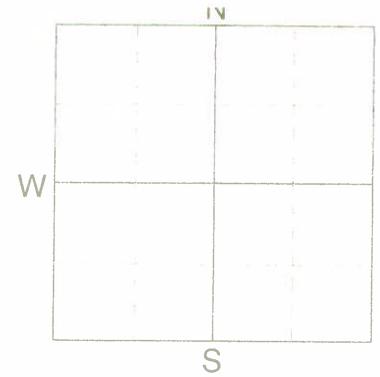
AGVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.



P.O. BOX 510, NORTHWOOD, ND 58257  
(701) 587-6010

# SOIL TEST REPORT

FIELD STARBUCK SAMPLE 1  
 COUNTY  
 TWP SECTION  
 QTR NW 25-9-2W ACRES 160.0  
 PREV CROP WHEAT



**SUBMITTED FOR:**

STARLITE COLONY

STARBUCK, ND

ROG ZPO CANADA

**SUBMITTED BY:**

PI2813

RICHARDSON PIONEER-STARBUCK  
 RAILWAY AVE  
 BOX 130  
 STARBUCK, ND

ROG ZPO CANADA

REF # 3064217  
 LAB # 145599

BOX # 696

DATE SAMPLED

DATE RECEIVED 10/7/20

DATE REPORTED 10/10/20

NUTRIENT IN THE SOIL	INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE			
	V LOW	LOW	MED	HIGH	SOYBEANS		SOYBEANS		CANOLA			
Nitrate N	0-6"	24 lb/acre	6-24"	36 lb/acre	0-24"	60 lb/acre	YIELD GOAL	45 BU	YIELD GOAL	55 BU	YIELD GOAL	55 BU
Phosphorus	0-6"	18 lb/acre	6-24"	102 lb/acre	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINE			
					P & K MAINTENANCE		P & K MAINTENANCE		P & K MAINTENANCE			
Potassium					LB / ACRE	APPLICATION	LB / ACRE	APPLICATION	LB / ACRE	APPLICATION		
	0-6"	56 lb/acre	6-24"	102 lb/acre	N	0	N	0	N	133		
Sulfur					P <sub>2</sub> O <sub>5</sub>	37 Band #	P <sub>2</sub> O <sub>5</sub>	46 Band #	P <sub>2</sub> O <sub>5</sub>	49 Band #		
	0-6"	18 lb/acre	6-24"	102 lb/acre	K <sub>2</sub> O	0	K <sub>2</sub> O	0	K <sub>2</sub> O	0		
Boron					Cl	0	Cl	0	Cl	0		
	0-6"	1.4 ppm	6-24"	102 lb/acre	S	5 Band (Trial)	S	5 Band (Trial)	S	15 Band		
Zinc					B	0	B	0	B	0		
	0-6"	0.47 ppm	6-24"	102 lb/acre	Zn	2 Band	Zn	2 Band	Zn	1 Band		
Copper					Fe	0	Fe	0	Fe	0		
	0-6"	34.5 ppm	6-24"	102 lb/acre	Mn	0	Mn	0	Mn	0		
Magnesium					Cu	0	Cu	0	Cu	0		
	0-6"	1.7 ppm	6-24"	102 lb/acre	Mg	0	Mg	0	Mg	0		
Calcium					Lime	0.0	Lime	0.0	Lime	0.0		
	0-6"	2.17 ppm	6-24"	102 lb/acre								
Sodium												
	0-6"	2115 ppm	6-24"	102 lb/acre								
Organic Matter												
	0-6"	113 ppm	6-24"	102 lb/acre								
Carbonate (CCE)												
	0-6"	3.1 % CCE	6-24"	102 lb/acre								
Soluble Salts												
	0-6"	0.37 dS/m	6-24"	0.44 dS/m								

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6"	7.9	51.8 meq/kg	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
6-24"	8.2		62.5	34.0	2.5	0.9	

\*CAUTION: Seed-placed fertilizer can cause injury.\*

Estimated Soil Texture: Soil Texture is not estimated on high pH soils;

Soybean may respond to nitrogen if NO<sub>3</sub>-N is less than 60 lb/acre and soybean history is limited;

Soybean iron deficiency chlorosis (IDC) risk is moderate based on soil carbonate and salinity;

Crop Nutrient Removal: Crop 1: P2O5 34 K2O 53 Crop 2: P2O5 41 K2O 65 Crop 3: P2O5 50 K2O 25;

AGVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.

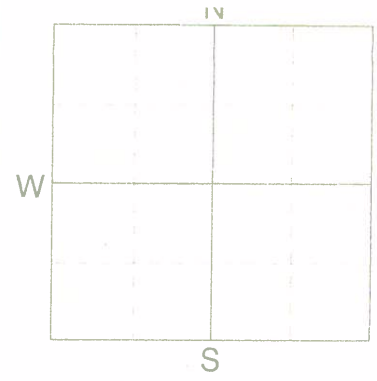




P.O. BOX 510, NORTHWOOD, ND 58267  
(701) 587-6010

# SOIL TEST REPORT

FIELD PRESSY SAMPLE 1  
 COUNTY  
 TWP SECTION  
 QTR SE 3-10-2W ACRES 230.0  
 PREV CROP SOYBEANS



**SUBMITTED FOR:**

STARLITE COLONY

STARBUCK, ND

ROG ZPO CANADA

**SUBMITTED BY:**

P12813

RICHARDSON PIONEER-STARBU  
 RAILWAY AVE  
 BOX 130  
 STARBUCK, ND

ROG ZPO CANADA

REF # 3019639  
 LAB # 110409

BOX # 11296

DATE SAMPLED

DATE RECEIVED 9/28/20

DATE REPORTED 9/29/20

NUTRIENT IN THE SOIL	INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE	
	V LOW	LOW	MED	HIGH	BARLEY		BARLEY		BARLEY	
0-6" Nitrate N	17 lb/acre				YIELD GOAL 90 BU	YIELD GOAL 100 BU	YIELD GOAL 110 BU			
6-24" Nitrate N	27 lb/acre				SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINE:			
0-24" Nitrate N	44 lb/acre				P & K MAINTENANCE	P & K MAINTENANCE	P & K MAINTENANCE			
					LB/ACRE APPLICATION	LB/ACRE APPLICATION	LB/ACRE APPLICATION			
Phosphorus	21 ppm				N 81	N 96	N 112			
Potassium	525 ppm				P <sub>2</sub> O <sub>5</sub> 42 Band *	P <sub>2</sub> O <sub>5</sub> 47 Band *	P <sub>2</sub> O <sub>5</sub> 51 Band *			
Chloride 0-24"	96 lb/acre				K <sub>2</sub> O 10 Band(Starter)*	K <sub>2</sub> O 10 Band(Starter)*	K <sub>2</sub> O 10 Band(Starter)*			
Sulfur 0-6"	16 lb/acre				Cl 0	Cl 0	Cl 0			
6-24"	360+ lb/acre				S 0	S 0	S 0			
Boron	1.1 ppm				B 0	B 0	B 0			
Zinc	1.34 ppm				Zn 1 Band	Zn 1 Band	Zn 1 Band			
Iron	32.6 ppm				Fe 0	Fe 0	Fe 0			
Manganese	2.5 ppm				Mn 0	Mn 0	Mn 0			
Copper	1.68 ppm				Cu 0	Cu 0	Cu 0			
Magnesium	1532 ppm				Mg 0	Mg 0	Mg 0			
Calcium	5828 ppm				Lime 0.0	Lime 0.0	Lime 0.0			
Sodium	99 ppm									
Organic Matter	5.7 %									
Carbonate (CCE)	2.0 % CCE									
Soluble Salts 0-6"	0.67 dS/m									
6-24"	1.18 dS/m									

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 7.5		43.7 meq/kg	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
6-24" 8.1			66.7	29.2	3.1	1.0	

**\*CAUTION: Seed-placed fertilizer can cause injury.\***

Estimated Soil Texture: Clay/Clay Loam (CEC range = 30+) (Fine);

Nitrogen credits granted: Crop 1 = 15 Crop 2 = 15 Crop 3 = 15 May be adjusted based on local conditions;

Crop Nutrient Removal: Crop 1: P2O5 42 K2O 45 Crop 2: P2O5 47 K2O 50 Crop 3: P2O5 52 K2O 55;

AGVISE Band/Maint guideline will build P & K test levels to the medium range over several years and then maintain them.