2015 - Soybeans THURSTON 230 A.

2016 - Corn

lb/A

BROOKSIDE LABORATORIES, INC.

58251-2

SOIL AUDIT AND INVENTORY REPORT

Name Ringler Energy City Cardington State OH

Independent Consultant Brookside Consultants of Ohio, Inc. Date 01/25/2016

Sample Location ASHLEY		THURSTON	THURSTON	THURSTON	THURSTON	THURSTON
Sample Identification		250-1	250-2	250-3	250-4	250-5
Lab Number		0058-1	0059-1	0060-1	0061-1	0062-1
Total Exchange Capacity (ME/100 g)		24.08	25.82	23.85	16.09	23.20
pH (H_2O 1:1)		5.2	5.7	5.0	5.4	4.6
Organic Matter (humus) %		2.84	3.67	2.98	1.93	2.41
Estimated Nitrogen Release	lb/A	77	87	80	59	68
ANIONS — SOLUBLE SULFUR*	ppm	13	9	9	8	13
ANIONS — PHOSPHORUS — MEHLICH III	lb/A P as P_2O_5	60	78	96	37	73
	ppm of P	13	17	21	8	16
ANIONS — PHOSPHORUS — BRAY II	lb/A P as P_2O_5	69	142	119	32	96
	ppm of P	15	31	26	7	21
ANIONS — PHOSPHORUS — OLSEN	lb/A P as P_2O_5					
	ppm of P					
EXCHANGEABLE CATIONS — CALCIUM*	lb/A	3908	5690	3558	2996	2842
	ppm	1954	2845	1779	1498	1421
EXCHANGEABLE CATIONS — MAGNESIUM*	lb/A	664	794	482	438	360
	ppm	332	397	241	219	180
EXCHANGEABLE CATIONS — POTASSIUM*	lb/A	258	344	274	248	234
	ppm	129	172	137	124	117
EXCHANGEABLE CATIONS — SODIUM*	lb/A	62	46	44	40	44
	ppm	31	23	22	20	22
BASE SATURATION PERCENT						
Calcium	%	40.57	55.09	37.30	46.55	30.63
Magnesium	%	11.49	12.81	8.42	11.34	6.47
Potassium	%	1.37	1.71	1.47	1.98	1.29
Sodium	%	0.56	0.39	0.40	0.54	0.41
Other Bases	%	7.00	6.00	7.40	6.60	8.20
Hydrogen	%	39.00	24.00	45.00	33.00	53.00
EXTRACTABLE MINORS						
Boron* (ppm)		0.54	0.63	0.59	0.40	0.47
Iron* (ppm)		240	315	300	185	262
Manganese* (ppm)		39	17	21	20	14
Copper* (ppm)		2.90	5.66	3.58	2.18	2.87
Zinc* (ppm)		2.94	4.92	2.54	1.57	1.13
Aluminum* (ppm)		1054	961	1020	819	1268
OTHER TESTS — Soluble Salts (mmhos/cm)						
Chlorides (ppm)						

* Mehlich III Extractable