



Soil Analysis Report

Waters Agricultural Laboratories, Inc

2101 Calhoun Rd | Owensboro, KY 42301- | Phone (270) 685-4039

"Improving Growth...
With Science"

TEXAS TECH-DEPT OF BIOLOGY [60759]

NATASJA VAN-GESTEL

TTU Biology 2901 MAIN ST

LUBBOCK, TX 79409

Grower: TEXAS TECH

Farm/Field: D1

LID:

Test Method: Mehlich III

Page 1

Target pH: 6.5

Received: 12/6/2021

Processed: 12/8/2021

Sample ID	Lab Number	P		K		Mg		Ca		pH		S		B		Zn		Mn		Fe		Cu		Na		OM	ENR	CEC	% Base Saturation				
		lbs/A	L	lbs/A	VH	lbs/A	VH	lbs/A	VH	Soil	Buffer	lbs/A	L	lbs/A	VH	lbs/A	L	lbs/A	A	lbs/A	M	lbs/A	M	lbs/A	L	%	lbs/A	meq	K	Mg	Ca	H	Na
C1	17846900	25	L	1032	VH	1577	VH	3660	VH	8.8	7.85	25	M	10.6	VH	1.7	L	160	A	70	M	2.8	M	242	0.30	6	18.8	7.0	35.0	48.7	6.4	2.8	
R1	17847000	31	L	1001	VH	1520	VH	3640	VH	8.5	7.85	18	L	7.4	VH	2.7	L	166	A	65	M	3.0	A	78	0.38	8	18.1	7.1	35.0	50.3	6.6	0.9	
W1	17847100	32	L	978	VH	1464	VH	3478	VH	8.5	7.80	16	L	7.4	VH	1.8	L	161	A	68	M	2.8	M	85	0.39	8	17.8	7.0	34.2	48.8	9.0	1.0	
WR1	17847200	22	L	913	VH	1831	VH	3405	VH	8.6	7.85	22	L	9.4	VH	1.8	L	161	A	68	M	2.8	M	127	0.39	8	18.8	6.2	40.6	45.3	6.4	1.5	
C2	17847300	33	L	998	VH	1526	VH	3555	VH	8.4	7.80	18	L	7.4	VH	1.7	L	168	A	73	M	3.0	A	65	0.28	6	18.3	7.0	34.8	48.7	8.8	0.8	
R2	17847400	24	L	981	VH	1572	VH	3485	VH	8.6	7.85	19	L	8.6	VH	1.6	L	160	A	71	M	2.9	M	151	0.34	7	18.0	7.0	36.3	48.3	6.6	1.8	
W2	17847500	24	L	1084	VH	1579	VH	3641	VH	8.8	7.80	21	L	10.2	VH	1.6	L	161	A	75	M	2.9	M	200	0.34	7	19.1	7.3	34.4	47.6	8.4	2.3	
WR2	17847600	25	L	913	VH	1557	VH	3766	VH	8.6	7.85	16	L	7.7	VH	1.6	L	164	A	63	M	3.0	A	102	0.34	7	18.5	6.3	35.1	50.9	6.5	1.2	
C1-2	17849300	23	L	841	VH	1591	VH	3262	VH	8.4	7.85	25	M	9.4	VH	2.3	L	170	A	98	M	3.0	A	218	0.32	6	17.5	6.1	37.8	46.5	6.8	2.7	
R1-2	17849400	31	L	1027	VH	1610	VH	3803	VH	8.3	7.85	20	L	7.5	VH	2.5	L	172	A	70	M	3.3	A	92	0.39	8	18.9	7.0	35.4	50.2	6.3	1.1	

Report values represent available plant nutrients in the soil. Rating Codes: L (Low), M (Medium), A (Adequate), H (High), VH (Very High)

Abbreviations: ENR (Estimated Nitrogen Release), C.E.C. (Cation Exchange Capacity), OM (Organic Matter)

Soil Fertility Recommendations (lbs/A)

Sample ID	Crop	Yield	Lime	Gypsum	N	P	K	Mg	S	B	Zn	Mn	Fe	Cu
			Tons/Acre		Nitrogen	Phosphate	Potash	Magnesium	Sulfur	Boron	Zinc	Manganese	Iron	Copper
C1	NO CROP													
R1	NO CROP													
W1	NO CROP													
WR1	NO CROP													
C2	NO CROP													
R2	NO CROP													
W2	NO CROP													
WR2	NO CROP													
C1-2	NO CROP													
R1-2	NO CROP													

Explanation of Symbols - * (maintenance), % (percent), ppm (parts per million), lbs/A (pounds per acre), lbs/1000 sq. ft. (pounds per 1000 square feet), mmhos/cm (milli-mhos per centimeter), meq (meq/100g: milli-equivalent per 100 grams)

Comments:



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		lbs/A		lbs/A		lbs/A		lbs/A		Soil	Buffer	lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		%	lbs/A	meq	K	Mg	Ca	H	Na		
W1-2	17849500	31	L	929	VH	1465	VH	3490	VH	8.5	7.80	24	L	7.6	VH	2.4	L	154	A	68	M	3.1	A	107	0.36	7	17.9	6.7	34.2	48.9	9.0	1.3	
WR1-2	17849600	20	L	903	VH	1806	VH	3296	VH	8.7	7.85	25	M	9.4	VH	1.9	L	162	A	78	M	3.5	A	227	0.32	6	18.6	6.2	40.4	44.3	6.4	2.7	
C2-2	17849700	32	L	991	VH	1573	VH	3539	VH	8.4	7.80	23	L	7.8	VH	1.9	L	165	A	66	M	3.2	A	101	0.28	6	18.5	6.9	35.4	47.8	8.7	1.2	
R2-2	17849800	23	L	873	VH	1959	VH	3348	VH	8.5	7.80	30	M	10.2	VH	1.9	L	165	A	69	M	3.3	A	192	0.26	5	19.7	5.7	41.5	42.6	8.1	2.1	
W2-2	17849900	21	L	896	VH	1783	VH	3239	VH	8.6	7.85	34	M	9.5	VH	2.0	L	155	A	68	M	3.1	A	215	0.34	7	18.3	6.3	40.5	44.1	6.5	2.5	
WR2-2	17850000	28	L	898	VH	1513	VH	3534	VH	8.3	7.80	20	L	7.7	VH	1.8	L	154	A	64	M	2.9	M	112	0.36	7	18.1	6.3	34.8	48.7	8.8	1.3	

Report values represent available plant nutrients in the soil. Rating Codes: L (Low), M (Medium), A (Adequate), H (High), VH (Very High)

Abbreviations: ENR (Estimated Nitrogen Release), C.E.C. (Cation Exchange Capacity), OM (Organic Matter)

Soil Fertility Recommendations (lbs/A)

Sample ID	Crop	Yield	Lime	Gypsum	N	P	K	Mg	S	B	Zn	Mn	Fe	Cu
			Tons/Acre		Nitrogen	Phosphate	Potash	Magnesium	Sulfur	Boron	Zinc	Manganese	Iron	Copper
W1-2	NO CROP													
WR1-2	NO CROP													
C2-2	NO CROP													
R2-2	NO CROP													
W2-2	NO CROP													
WR2-2	NO CROP													

Explanation of Symbols - * (maintenance), % (percent), ppm (parts per million), lbs/A (pounds per acre), lbs/1000 sq. ft. (pounds per 1000 square feet), mmhos/cm (milli-mhos per centimeter), meq (meq/100g: milli-equivalent per 100 grams)

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Processed: 12/8/2021

Sample ID	Lab Number	P		K		Mg		Ca		pH		S		B		Zn		Mn		Fe		Cu		Na	OM	ENR	CEC	% Base Saturation				
		lbs/A		lbs/A		lbs/A		lbs/A		Soil	Buffer	lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		%	lbs/A	meq	K	Mg	Ca	H	Na	
C1	17847700	33	L	1336	VH	1632	VH	3673	VH	8.5	7.85	24	L	9.9	VH	1.8	L	170	A	70	M	3.2	A	140	0.46	9	19.2	8.9	35.4	47.8	6.3	1.6
R1	17847800	34	L	1106	VH	1823	VH	3846	VH	8.5	7.80	23	L	8.3	VH	2.1	L	164	A	67	M	3.2	A	96	0.44	9	20.4	6.9	37.2	47.0	7.8	1.0
W1	17847900	32	L	1162	VH	1676	VH	3621	VH	8.7	7.80	19	L	9.8	VH	1.8	L	162	A	71	M	3.1	A	160	0.41	8	19.5	7.7	35.9	46.5	8.2	1.8
WR1	17848000	37	L	1290	VH	1941	VH	4190	VH	8.5	7.80	24	L	9.9	VH	2.3	L	176	A	67	M	3.3	A	112	0.51	10	22.1	7.5	36.7	47.5	7.3	1.1
C2	17848100	36	L	991	VH	1990	VH	3984	VH	8.7	7.85	29	M	10.6	VH	1.7	L	160	A	70	M	3.2	A	216	0.46	9	21.2	6.0	39.1	47.0	5.7	2.2
R2	17848200	32	L	1139	VH	1772	VH	3853	VH	8.5	7.80	20	L	8.6	VH	2.3	L	169	A	69	M	3.3	A	76	0.45	9	20.2	7.2	36.5	47.6	7.9	0.8
W2	17848300	28	L	1156	VH	1630	VH	3966	VH	8.7	7.85	34	M	10.4	VH	2.1	L	160	A	71	M	3.2	A	249	0.35	7	19.9	7.4	34.1	49.7	6.0	2.7
WR2	17848400	33	L	1175	VH	1608	VH	3733	VH	8.7	7.85	27	M	10.2	VH	1.8	L	162	A	73	M	3.3	A	237	0.41	8	19.3	7.8	34.8	48.5	6.2	2.7
C1-2	17850100	29	L	1153	VH	1855	VH	3211	VH	8.7	7.85	22	L	9.7	VH	1.9	L	163	A	68	M	3.2	A	152	0.38	8	18.8	7.9	41.2	42.8	6.4	1.8
R1-2	17850200	29	L	1102	VH	1830	VH	3869	VH	8.6	7.85	33	M	10.4	VH	2.4	L	161	A	66	M	3.9	A	204	0.40	8	20.4	6.9	37.5	47.5	5.9	2.2

Report values represent available plant nutrients in the soil. Rating Codes: L (Low), M (Medium), A (Adequate), H (High), VH (Very High)

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			Tons/Acre		Nitrogen	Phosphate	Potash	Magnesium	Sulfur	Boron	Zinc	Manganese	Iron	Copper
C1	NO CROP													
R1	NO CROP													
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WR1	NO CROP													
C2	NO CROP													
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W2	NO CROP													
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C1-2	NO CROP													
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Sample ID	Lab Number	P		K		Mg		Ca		pH		S		B		Zn		Mn		Fe		Cu		Na		OM	ENR	CEC	% Base Saturation				
		lbs/A		lbs/A		lbs/A		lbs/A		Soil	Buffer	lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		%	lbs/A	meq	K	Mg	Ca	H	Na		
W1-2	17850300	30	L	1124	VH	1723	VH	3454	VH	8.7	7.85	25	M	10.4	VH	1.9	L	159	A	69	M	3.2	A	242	0.40	8	19.0	7.6	37.8	45.5	6.3	2.8	
WR1-2	17850400	32	L	960	VH	1911	VH	3804	VH	8.5	7.80	33	M	9.9	VH	2.5	L	163	A	73	M	4.1	A	232	0.37	7	20.8	5.9	38.3	45.7	7.7	2.4	
C2-2	17850500	36	L	1103	VH	2023	VH	4429	VH	8.8	7.85	28	M	11.4	VH	1.9	L	173	A	80	M	3.7	A	299	0.45	9	22.8	6.2	37.0	48.6	5.3	2.9	
D2-2	17850600	32	L	1181	VH	1855	VH	3832	VH	8.7	7.80	20	L	11.1	VH	2.1	L	175	A	79	M	3.6	A	192	0.48	10	20.8	7.3	37.1	46.0	7.7	2.0	
W2-2	17850700	36	L	1122	VH	1976	VH	3891	VH	8.7	7.85	24	L	10.5	VH	2.2	L	174	A	84	M	3.6	A	214	0.42	8	21.1	6.8	39.1	46.2	5.7	2.2	
WR2-2	17850800	29	L	1158	VH	1916	VH	3718	VH	8.6	7.80	26	M	11.1	VH	2.0	L	175	A	81	M	3.8	A	242	0.44	9	20.9	7.1	38.2	44.5	7.7	2.5	

Report values represent available plant nutrients in the soil. Rating Codes: L (Low), M (Medium), A (Adequate), H (High), VH (Very High)

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Sample ID	Crop	Yield	Lime	Gypsum	N	P	K	Mg	S	B	Zn	Mn	Fe	Cu
			Tons/Acre		Nitrogen	Phosphate	Potash	Magnesium	Sulfur	Boron	Zinc	Manganese	Iron	Copper
W1-2	NO CROP													
WR1-2	NO CROP													
C2-2	NO CROP													
D2-2	NO CROP													
W2-2	NO CROP													
WR2-2	NO CROP													

Explanation of Symbols - * (maintenance), % (percent), ppm (parts per million), lbs/A (pounds per acre), lbs/1000 sq. ft. (pounds per 1000 square feet), mmhos/cm (milli-mhos per centimeter), meq (meq/100g: milli-equivalent per 100 grams)

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Sample ID	Lab Number	P		K		Mg		Ca		pH		S		B		Zn		Mn		Fe		Cu		Na	OM	ENR	CEC	% Base Saturation				
		lbs/A		lbs/A		lbs/A		lbs/A		Soil	Buffer	lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		%	lbs/A	meq	K	Mg	Ca	H	Na	
R1	17848600	42	M	1090	VH	1936	VH	4081	VH	8.5	7.80	20	L	7.6	VH	1.9	L	177	A	65	M	3.3	A	55	0.33	7	21.4	6.5	37.7	47.7	7.5	0.6
W1	17848700	37	L	906	VH	2307	VH	3775	VH	8.8	7.80	20	L	11.2	VH	1.7	L	180	A	68	M	3.4	A	231	0.27	5	22.3	5.2	43.1	42.3	7.2	2.3
WR1	17848800	60	M	1228	VH	1585	VH	4544	VH	8.4	7.80	31	M	8.1	VH	3.3	L	182	A	61	M	3.5	A	222	0.53	11	21.6	7.3	30.5	52.5	7.4	2.2
C2	17848900	36	L	1146	VH	2115	VH	4069	VH	8.7	7.80	22	L	11.9	VH	1.7	L	181	A	70	M	3.6	A	232	0.39	8	22.6	6.5	39.1	45.1	7.1	2.2
R2	17849000	44	M	1107	VH	2015	VH	4218	VH	8.5	7.80	20	L	8.1	VH	2.3	L	178	A	68	M	3.6	A	69	0.51	10	22.1	6.4	38.0	47.7	7.2	0.7
W2	17849100	51	M	1107	VH	2093	VH	4229	VH	8.7	7.80	23	L	10.7	VH	2.2	L	180	A	71	M	3.5	A	242	0.26	5	22.8	6.2	38.2	46.3	7.0	2.3
WR2	17849200	36	L	949	VH	2112	VH	3921	VH	8.6	7.80	21	L	8.1	VH	2.1	L	183	A	66	M	3.5	A	129	0.36	7	21.7	5.6	40.6	45.2	7.4	1.3
C1-2	17850900	48	M	990	VH	2125	VH	3906	VH	8.7	7.85	25	M	10.3	VH	2.0	L	180	A	79	M	3.7	A	213	0.45	9	21.6	5.9	41.1	45.3	5.6	2.1
R1-2	17851000	37	L	1179	VH	1999	VH	4271	VH	8.7	7.85	28	M	11.8	VH	2.1	L	191	A	78	M	3.9	A	240	0.46	9	22.2	6.8	37.5	48.0	5.4	2.3
W1-2	17851100	42	M	1292	VH	2216	VH	4671	VH	8.8	7.85	28	M	12.4	VH	2.2	L	207	H	79	M	4.1	A	289	0.42	8	24.4	6.8	37.8	47.9	4.9	2.6

Report values represent available plant nutrients in the soil. Rating Codes: L (Low), M (Medium), A (Adequate), H (High), VH (Very High)

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Sample ID	Lab Number	P		K		Mg		Ca		pH		S		B		Zn		Mn		Fe		Cu		Na		OM	ENR	CEC	% Base Saturation				
		lbs/A		lbs/A		lbs/A		lbs/A		Soil	Buffer	lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A	%	lbs/A	meq	K	Mg	Ca	H	Na	
WR1-2	17851200	48	M	1314	VH	2051	VH	4544	VH	8.6	7.80	43	M	11.4	VH	2.7	L	192	A	78	M	4.5	A	305	0.44	9	23.9	7.1	35.8	47.6	6.7	2.8	
C2-2	17851300	34	L	1005	VH	2246	VH	3913	VH	8.7	7.85	31	M	10.9	VH	1.9	L	180	A	73	M	3.8	A	220	0.36	7	22.1	5.8	42.3	44.2	5.4	2.2	
R2-2	17851400	39	L	1088	VH	1992	VH	4233	VH	8.7	7.85	29	M	9.5	VH	2.2	L	179	A	67	M	3.7	A	234	0.46	9	22.0	6.3	37.8	48.1	5.5	2.3	
W2-2	17851500	50	M	1414	VH	2318	VH	5020	VH	8.7	7.80	34	M	11.7	VH	2.6	L	211	H	74	M	4.2	A	292	0.45	9	26.3	6.9	36.8	47.8	6.1	2.4	
WR2-2	17851600	32	L	1048	VH	2118	VH	4105	VH	8.6	7.80	30	M	12.2	VH	2.1	L	181	A	69	M	3.7	A	306	0.36	7	22.7	5.9	38.9	45.2	7.0	2.9	

Report values represent available plant nutrients in the soil. Rating Codes: L (Low), M (Medium), A (Adequate), H (High), VH (Very High)

Abbreviations: ENR (Estimated Nitrogen Release), C.E.C. (Cation Exchange Capacity), OM (Organic Matter)

Soil Fertility Recommendations (lbs/A)

Sample ID	Crop	Yield	Lime	Gypsum	N	P	K	Mg	S	B	Zn	Mn	Fe	Cu
			Tons/Acre		Nitrogen	Phosphate	Potash	Magnesium	Sulfur	Boron	Zinc	Manganese	Iron	Copper
WR1-2	NO CROP													
C2-2	NO CROP													
R2-2	NO CROP													
W2-2	NO CROP													
WR2-2	NO CROP													

Explanation of Symbols - * (maintenance), % (percent), ppm (parts per million), lbs/A (pounds per acre), lbs/1000 sq. ft. (pounds per 1000 square feet), mmhos/cm (milli-mhos per centimeter), meq (meq/100g: milli-equivalent per 100 grams)

Comments:



Soil Analysis Report

Waters Agricultural Laboratories, Inc

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"Improving Growth...
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TEXAS TECH-DEPT OF BIOLOGY [60759]

NATASJA VAN-GESTEL

TTU Biology 2901 MAIN ST

LUBBOCK, TX 79409

Grower: TEXAS TECH

Farm/Field: I1

LID:

Test Method: Mehlich III

Page 7

Target pH: 6.5

Received: 12/6/2021

Processed: 12/8/2021

Sample ID	Lab Number	P		K		Mg		Ca		pH		S		B		Zn		Mn		Fe		Cu		Na		OM	ENR	CEC	% Base Saturation				
		lbs/A		lbs/A		lbs/A		lbs/A		Soil	Buffer	lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		%	lbs/A	meq	K	Mg	Ca	H	Na
C1	17842100	23	L	966	VH	1486	VH	2822	VH	8.7	7.85	28	M	8.7	VH	1.4	L	155	A	67	M	2.6	M	239		0.79	16	16.2	7.6	38.2	43.5	7.4	3.2
R1	17842200	20	L	1008	VH	1578	VH	2865	VH	8.5	7.80	19	L	6.7	VH	1.5	L	167	A	61	M	2.7	M	74		0.85	17	16.8	7.7	39.2	42.7	9.5	1.0
W1	17842300	22	L	985	VH	1663	VH	2914	VH	8.7	7.85	30	M	10.3	VH	1.4	L	164	A	67	M	2.7	M	176		0.85	17	17.1	7.4	40.6	42.7	7.0	2.2
WR1	17842400	27	L	871	VH	1686	VH	2789	VH	8.7	7.85	32	M	8.8	VH	1.8	L	154	A	66	M	2.6	M	177		0.84	17	16.7	6.7	42.1	41.8	7.2	2.3
C2	17842500	24	L	898	VH	1605	VH	2790	VH	8.7	7.85	20	L	9.0	VH	1.6	L	161	A	65	M	2.6	M	214		0.80	16	16.5	7.0	40.6	42.3	7.3	2.8
R2	17842600	31	L	889	VH	1382	VH	2842	VH	8.2	7.80	19	L	5.5	VH	1.8	L	150	A	57	M	2.5	M	66		3.59	72	15.7	7.2	36.6	45.1	10.2	0.9
W2	17842700	19	L	1022	VH	1584	VH	2975	VH	8.7	7.85	47	M	9.9	VH	1.5	L	162	A	74	M	2.8	M	279		0.77	15	17.2	7.6	38.5	43.4	7.0	3.5
WR2	17842800	28	L	976	VH	1559	VH	2856	VH	8.4	7.85	62	A	7.9	VH	2.0	L	150	A	65	M	2.6	M	204		1.07	21	16.5	7.6	39.3	43.2	7.3	2.7
C1-2	17843500	18	L	865	VH	1798	VH	2791	VH	8.7	7.80	24	L	9.0	VH	1.4	L	169	A	73	M	3.0	A	190		0.91	18	17.6	6.3	42.6	39.7	9.1	2.3
R1-2	17843600	20	L	880	VH	1613	VH	2688	VH	8.6	7.85	31	M	8.0	VH	1.6	L	147	A	65	M	2.6	M	189		0.80	16	16.2	7.0	41.5	41.5	7.4	2.5

Report values represent available plant nutrients in the soil. Rating Codes: L (Low), M (Medium), A (Adequate), H (High), VH (Very High)

Abbreviations: ENR (Estimated Nitrogen Release), C.E.C. (Cation Exchange Capacity), OM (Organic Matter)

Soil Fertility Recommendations (lbs/A)

Sample ID	Crop	Yield	Lime	Gypsum	N	P	K	Mg	S	B	Zn	Mn	Fe	Cu
			Tons/Acre		Nitrogen	Phosphate	Potash	Magnesium	Sulfur	Boron	Zinc	Manganese	Iron	Copper
C1	NO CROP													
R1	NO CROP													
W1	NO CROP													
WR1	NO CROP													
C2	NO CROP													
R2	NO CROP													
W2	NO CROP													
WR2	NO CROP													
C1-2	NO CROP													
R1-2	NO CROP													

Explanation of Symbols - * (maintenance), % (percent), ppm (parts per million), lbs/A (pounds per acre), lbs/1000 sq. ft. (pounds per 1000 square feet), mmhos/cm (milli-mhos per centimeter), meq (meq/100g: milli-equivalent per 100 grams)

Comments:



Soil Analysis Report

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NATASJA VAN-GESTEL

TTU Biology 2901 MAIN ST

LUBBOCK, TX 79409

Grower: TEXAS TECH

Farm/Field: I1

LID:

Test Method: Mehlich III

Page 8

Target pH: 6.5

Received: 12/6/2021

Processed: 12/8/2021

Sample ID	Lab Number	P		K		Mg		Ca		pH		S		B		Zn		Mn		Fe		Cu		Na		OM	ENR	CEC	% Base Saturation				
		lbs/A		lbs/A		lbs/A		lbs/A		Soil	Buffer	lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		%	lbs/A	meq	K	Mg	Ca	H	Na		
W1-2	17843700	22	L	728	VH	1515	VH	2780	VH	8.1	7.80	20	L	7.5	VH	1.7	L	155	A	90	M	2.8	M	171	0.65	13	16.2	5.8	39.0	43.0	9.9	2.3	
WR-2	17843800	25	L	875	VH	1621	VH	2640	VH	8.3	7.85	40	M	7.5	VH	1.9	L	154	A	66	M	2.9	M	152	0.40	8	16.0	7.0	42.2	41.2	7.5	2.1	
C2-2	17843900	17	L	781	VH	1814	VH	2816	VH	8.8	7.80	31	M	9.4	VH	1.4	L	162	A	67	M	2.8	M	266	0.35	7	17.8	5.6	42.5	39.6	9.0	3.3	
R2-2	17844000	22	L	836	VH	1780	VH	2856	VH	8.6	7.80	26	M	7.9	VH	2.0	L	164	A	65	M	3.0	A	196	0.37	7	17.7	6.1	42.0	40.4	9.1	2.4	
W2-2	17844100	18	L	797	VH	1773	VH	2765	VH	8.7	7.85	23	L	8.7	VH	1.6	L	162	A	73	M	3.1	A	207	0.83	17	17.0	6.0	43.5	40.7	7.1	2.7	
WR2-2	17844200	17	L	867	VH	1821	VH	2839	VH	8.6	7.85	43	M	9.1	VH	1.6	L	158	A	68	M	2.9	M	258	0.39	8	17.6	6.3	43.2	40.4	6.8	3.2	

Report values represent available plant nutrients in the soil. Rating Codes: L (Low), M (Medium), A (Adequate), H (High), VH (Very High)

Abbreviations: ENR (Estimated Nitrogen Release), C.E.C. (Cation Exchange Capacity), OM (Organic Matter)

Soil Fertility Recommendations (lbs/A)

Sample ID	Crop	Yield	Lime	Gypsum	N	P	K	Mg	S	B	Zn	Mn	Fe	Cu
			Tons/Acre		Nitrogen	Phosphate	Potash	Magnesium	Sulfur	Boron	Zinc	Manganese	Iron	Copper
W1-2	NO CROP													
WR-2	NO CROP													
C2-2	NO CROP													
R2-2	NO CROP													
W2-2	NO CROP													
WR2-2	NO CROP													

Explanation of Symbols - * (maintenance), % (percent), ppm (parts per million), lbs/A (pounds per acre), lbs/1000 sq. ft. (pounds per 1000 square feet), mmhos/cm (milli-mhos per centimeter), meq (meq/100g: milli-equivalent per 100 grams)

Comments:



Soil Analysis Report

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NATASJA VAN-GESTEL

TTU Biology 2901 MAIN ST

LUBBOCK, TX 79409

Grower: TEXAS TECH

Farm/Field: I2

LID:

Test Method: Mehlich III

Page 9

Target pH: 6.5

Received: 12/6/2021

Processed: 12/8/2021

Sample ID	Lab Number	P		K		Mg		Ca		pH		S		B		Zn		Mn		Fe		Cu		Na		OM	ENR	CEC	% Base Saturation				
		lbs/A		lbs/A		lbs/A		lbs/A		Soil	Buffer	lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A	%	lbs/A	meq	K	Mg	Ca	H	Na	
C1	17842900	27	L	864	VH	1744	VH	3293	VH	8.4	7.80	33	M	9.9	VH	2.3	L	156	A	105	A	3.0	A	189	0.92	18	18.6	5.9	39.0	44.2	8.6	2.2	
R1	17843000	31	L	912	VH	1869	VH	3557	VH	8.5	7.80	17	L	8.0	VH	2.3	L	169	A	85	M	3.2	A	105	1.00	20	19.7	5.9	39.6	45.2	8.1	1.2	
C1-2	17844300	20	L	1020	VH	1702	VH	3449	VH	8.7	7.80	30	M	10.8	VH	1.7	L	158	A	75	M	3.4	A	235	0.45	9	19.1	6.8	37.1	45.1	8.4	2.7	
R1-2	17844400	19	L	861	VH	2141	VH	3267	VH	8.7	7.80	27	M	9.6	VH	1.7	L	163	A	71	M	3.3	A	216	0.46	9	20.3	5.4	44.0	40.3	7.9	2.3	
W1-2	17844500	21	L	818	VH	1996	VH	3015	VH	8.7	7.80	31	M	9.2	VH	1.4	L	158	A	70	M	3.1	A	251	0.39	8	19.0	5.5	43.7	39.6	8.4	2.9	
WR1-2	17844600	22	L	951	VH	1825	VH	3456	VH	8.5	7.85	63	A	9.9	VH	2.0	L	157	A	72	M	3.4	A	250	0.54	11	19.2	6.3	39.6	45.0	6.2	2.8	
C2-2	17844700	23	L	827	VH	2053	VH	3320	VH	8.7	7.80	24	L	9.5	VH	1.6	L	158	A	70	M	3.2	A	202	0.40	8	20.0	5.3	42.9	41.6	8.0	2.2	
R2-2	17844800	21	L	950	VH	1855	VH	3389	VH	8.7	7.85	49	M	9.6	VH	1.8	L	151	A	67	M	3.3	A	258	0.47	9	19.2	6.3	40.3	44.2	6.3	2.9	
W2-2	17844900	25	L	833	VH	2010	VH	3385	VH	8.7	7.85	43	M	10.4	VH	1.6	L	148	A	75	M	3.2	A	192	0.46	9	19.5	5.5	42.9	43.3	6.1	2.1	
WR2-2	17845000	18	L	793	VH	2031	VH	3046	VH	8.7	7.85	37	M	9.2	VH	1.5	L	155	A	67	M	3.2	A	264	0.42	8	18.9	5.4	44.9	40.4	6.4	3.0	

Report values represent available plant nutrients in the soil. Rating Codes: L (Low), M (Medium), A (Adequate), H (High), VH (Very High)

Abbreviations: ENR (Estimated Nitrogen Release), C.E.C. (Cation Exchange Capacity), OM (Organic Matter)

Soil Fertility Recommendations (lbs/A)

Sample ID	Crop	Yield	Lime		Gypsum		N	P	K	Mg	S	B	Zn	Mn	Fe	Cu
			Tons/Acre				Nitrogen	Phosphate	Potash	Magnesium	Sulfur	Boron	Zinc	Manganese	Iron	Copper
C1	NO CROP															
R1	NO CROP															
C1-2	NO CROP															
R1-2	NO CROP															
W1-2	NO CROP															
WR1-2	NO CROP															
C2-2	NO CROP															
R2-2	NO CROP															
W2-2	NO CROP															
WR2-2	NO CROP															

Explanation of Symbols - * (maintenance), % (percent), ppm (parts per million), lbs/A (pounds per acre), lbs/1000 sq. ft. (pounds per 1000 square feet), mmhos/cm (milli-mhos per centimeter), meq (meq/100g: milli-equivalent per 100 grams)

Comments:



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NATASJA VAN-GESTEL

TTU Biology 2901 MAIN ST

LUBBOCK, TX 79409

Grower: TEXAS TECH

Farm/Field: I2

LID:

Test Method: Mehlich III

Page 10

Target pH: 6.5

Received: 12/6/2021

Processed: 12/8/2021

Sample ID	Lab Number	P		K		Mg		Ca		pH		S		B		Zn		Mn		Fe		Cu		Na		OM	ENR	CEC	% Base Saturation				
		lbs/A		lbs/A		lbs/A		lbs/A		Soil	Buffer	lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		%	lbs/A	meq	K	Mg	Ca	H	Na
W1	17845100	28	L	910	VH	1782	VH	3340	VH	8.8	7.85	37	M	11.3	VH	1.6	L	151	A	74	M	2.9	M	228		0.41	8	18.6	6.3	39.8	44.8	6.4	2.7
WR1	17845200	24	L	889	VH	1833	VH	3431	VH	8.4	7.80	32	M	7.2	VH	2.3	L	159	A	67	M	3.1	A	113		0.58	12	19.2	5.9	39.8	44.7	8.3	1.3
C2	17845300	23	L	930	VH	1581	VH	3488	VH	8.8	7.85	37	M	10.5	VH	1.9	L	145	A	74	M	2.8	M	330		0.40	8	18.4	6.5	35.8	47.3	6.5	3.9
R2	17845400	28	L	852	VH	1388	VH	3289	VH	8.4	7.80	24	L	6.6	VH	2.0	L	138	A	69	M	2.7	M	144		0.41	8	17.0	6.4	34.0	48.3	9.4	1.8
W2	17845500	26	L	860	VH	1523	VH	3489	VH	8.8	7.80	58	A	9.4	VH	1.5	L	146	A	69	M	2.9	M	375		0.38	8	18.6	5.9	34.1	46.9	8.6	4.4
WR2	17845600	24	L	848	VH	1520	VH	3258	VH	8.7	7.85	41	M	7.9	VH	1.8	L	147	A	70	M	2.8	M	293		0.53	11	17.4	6.2	36.4	46.8	6.9	3.7

Report values represent available plant nutrients in the soil. Rating Codes: L (Low), M (Medium), A (Adequate), H (High), VH (Very High)

Abbreviations: ENR (Estimated Nitrogen Release), C.E.C. (Cation Exchange Capacity), OM (Organic Matter)

Soil Fertility Recommendations (lbs/A)

Sample ID	Crop	Yield	Lime	Gypsum	N	P	K	Mg	S	B	Zn	Mn	Fe	Cu
			Tons/Acre		Nitrogen	Phosphate	Potash	Magnesium	Sulfur	Boron	Zinc	Manganese	Iron	Copper
W1	NO CROP													
WR1	NO CROP													
C2	NO CROP													
R2	NO CROP													
W2	NO CROP													
WR2	NO CROP													

Explanation of Symbols - * (maintenance), % (percent), ppm (parts per million), lbs/A (pounds per acre), lbs/1000 sq. ft. (pounds per 1000 square feet), mmhos/cm (milli-mhos per centimeter), meq (meq/100g: milli-equivalent per 100 grams)

Comments:



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LUBBOCK, TX 79409

Grower: TEXAS TECH

Farm/Field: I3

LID:

Test Method: Mehlich III

Page 11

Target pH: 6.5

Received: 12/6/2021

Processed: 12/8/2021

Sample ID	Lab Number	P		K		Mg		Ca		pH		S		B		Zn		Mn		Fe		Cu		Na		OM	ENR	CEC	% Base Saturation				
		lbs/A		lbs/A		lbs/A		lbs/A		Soil	Buffer	lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A	%	lbs/A	meq	K	Mg	Ca	H	Na	
C2	17843100	45	M	1168	VH	1835	VH	4277	VH	8.9	7.80	21	L	10.6	VH	1.9	L	188	A	73	M	3.4	A	301	0.86	17	22.1	6.8	34.6	48.4	7.2	3.0	
R2	17843200	32	L	1056	VH	1927	VH	4514	VH	8.6	7.80	16	L	7.4	VH	1.9	L	195	A	66	M	3.6	A	98	0.99	20	22.5	6.0	35.7	50.2	7.1	0.9	
W2	17843300	36	L	1065	VH	1824	VH	4431	VH	8.6	7.80	31	M	8.9	VH	1.9	L	186	A	69	M	3.4	A	244	1.01	20	22.2	6.2	34.3	50.0	7.2	2.4	
WR2	17843400	49	M	1171	VH	1836	VH	4227	VH	8.7	7.85	22	L	10.4	VH	2.4	L	190	A	71	M	3.5	A	240	1.13	23	21.4	7.0	35.7	49.3	5.6	2.4	
C1	17845700	37	L	1115	VH	1537	VH	3876	VH	8.6	7.85	21	L	8.6	VH	1.9	L	161	A	67	M	3.1	A	195	0.48	10	19.1	7.5	33.4	50.6	6.3	2.2	
R1	17845800	36	L	1145	VH	1608	VH	3692	VH	8.7	7.85	27	M	10.0	VH	2.1	L	163	A	63	M	3.1	A	202	0.53	11	19.0	7.7	35.2	48.5	6.3	2.3	
W1	17845900	39	L	1158	VH	1596	VH	3538	VH	8.7	7.80	35	M	9.4	VH	1.8	L	170	A	66	M	3.3	A	274	0.50	10	19.2	7.7	34.7	46.1	8.3	3.1	
WR1	17846000	37	L	1153	VH	1743	VH	4124	VH	8.6	7.85	22	L	9.5	VH	2.2	L	166	A	69	M	3.3	A	96	0.60	12	20.5	7.2	35.5	50.4	5.9	1.0	
C1-2	17846100	29	L	1032	VH	1846	VH	3809	VH	8.7	7.85	30	M	10.2	VH	1.8	L	172	A	65	M	3.4	A	259	0.46	9	20.3	6.5	37.9	46.9	5.9	2.8	
R1-2	17846200	29	L	864	VH	2060	VH	3151	VH	8.3	7.80	23	L	7.0	VH	3.1	L	166	A	61	M	3.4	A	104	0.45	9	19.4	5.7	44.3	40.6	8.2	1.2	

Report values represent available plant nutrients in the soil. Rating Codes: L (Low), M (Medium), A (Adequate), H (High), VH (Very High)

Abbreviations: ENR (Estimated Nitrogen Release), C.E.C. (Cation Exchange Capacity), OM (Organic Matter)

Soil Fertility Recommendations (lbs/A)

Sample ID	Crop	Yield	Lime	Gypsum	N	P	K	Mg	S	B	Zn	Mn	Fe	Cu
			Tons/Acre		Nitrogen	Phosphate	Potash	Magnesium	Sulfur	Boron	Zinc	Manganese	Iron	Copper
C2	NO CROP													
R2	NO CROP													
W2	NO CROP													
WR2	NO CROP													
C1	NO CROP													
R1	NO CROP													
W1	NO CROP													
WR1	NO CROP													
C1-2	NO CROP													
R1-2	NO CROP													

Explanation of Symbols - * (maintenance), % (percent), ppm (parts per million), lbs/A (pounds per acre), lbs/1000 sq. ft. (pounds per 1000 square feet), mmhos/cm (milli-mhos per centimeter), meq (meq/100g: milli-equivalent per 100 grams)

Comments:



Soil Analysis Report

Waters Agricultural Laboratories, Inc

2101 Calhoun Rd | Owensboro, KY 42301- | Phone (270) 685-4039

"Improving Growth...
With Science"

TEXAS TECH-DEPT OF BIOLOGY [60759]

NATASJA VAN-GESTEL

TTU Biology 2901 MAIN ST

LUBBOCK, TX 79409

Grower: TEXAS TECH

Farm/Field: I3

LID:

Test Method: Mehlich III

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Target pH: 6.5

Received: 12/6/2021

Processed: 12/8/2021

Sample ID	Lab Number	P		K		Mg		Ca		pH		S		B		Zn		Mn		Fe		Cu		Na		OM	ENR	CEC	% Base Saturation				
		lbs/A		lbs/A		lbs/A		lbs/A		Soil	Buffer	lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A		lbs/A	%	lbs/A	meq	K	Mg	Ca	H	Na	
W1-2	17846300	27	L	1019	VH	1983	VH	3869	VH	8.4	7.75	22	L	8.8	VH	3.5	L	172	A	67	M	3.4	A	134	0.40	8	21.5	6.1	38.4	44.9	9.3	1.4	
WR1-2	17846400	31	L	1059	VH	2418	VH	4277	VH	8.6	7.80	54	A	10.4	VH	2.4	L	201	H	67	M	4.1	A	304	0.40	8	24.4	5.6	41.3	43.8	6.6	2.7	
C2-2	17846500	32	L	1077	VH	2340	VH	3990	VH	8.5	7.80	29	M	9.9	VH	1.8	L	185	A	65	M	3.7	A	210	0.46	9	23.2	6.0	42.1	43.1	6.9	2.0	
R2-2	17846600	28	L	874	VH	2221	VH	4150	VH	8.7	7.80	32	M	8.9	VH	2.0	L	179	A	61	M	3.6	A	192	0.47	9	22.8	4.9	40.6	45.6	7.0	1.8	
W2-2	17846700	29	L	996	VH	2043	VH	4476	VH	8.7	7.80	38	M	10.9	VH	2.1	L	174	A	63	M	3.4	A	231	0.44	9	23.1	5.5	36.9	48.5	6.9	2.2	
WR2-2	17846800	25	L	955	VH	2308	VH	3626	VH	8.7	7.80	25	M	7.9	VH	1.9	L	181	A	59	M	3.6	A	191	0.46	9	21.9	5.6	43.9	41.4	7.3	1.9	

Report values represent available plant nutrients in the soil. Rating Codes: L (Low), M (Medium), A (Adequate), H (High), VH (Very High)

Abbreviations: ENR (Estimated Nitrogen Release), C.E.C. (Cation Exchange Capacity), OM (Organic Matter)

Soil Fertility Recommendations (lbs/A)

Sample ID	Crop	Yield	Lime	Gypsum	N	P	K	Mg	S	B	Zn	Mn	Fe	Cu
			Tons/Acre		Nitrogen	Phosphate	Potash	Magnesium	Sulfur	Boron	Zinc	Manganese	Iron	Copper
W1-2	NO CROP													
WR1-2	NO CROP													
C2-2	NO CROP													
R2-2	NO CROP													
W2-2	NO CROP													
WR2-2	NO CROP													

Explanation of Symbols - * (maintenance), % (percent), ppm (parts per million), lbs/A (pounds per acre), lbs/1000 sq. ft. (pounds per 1000 square feet), mmhos/cm (milli-mhos per centimeter), meq (meq/100g: milli-equivalent per 100 grams)

Comments: