Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
FRECKENHAM FM

Distributor DEMETER TECHNOLOGY
5 ST ANDREWS CLOSE
ISLEHAM
CAMBS
CB7 5TB

Sample Ref SMITHS T1

Date Received 16/09/2020 (Date Issued: 23/09/2020)

Sample No E204194/01

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.2			
Org. Matter - DUMAS (%)	1.0			
C.E.C. (meq/100g)	24.1			
Soil Respiration (mg/kg)	22			
C:N Ratio	7.8			
Texture Class	SALO			
Org. Carbon Stock (t/ha)	11.3			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	23						
Potassium (ppm)	86						
Magnesium (ppm)	44						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	4707			
Sulphur (ppm)	1			
Sodium (ppm)	25			
Boron (ppm)	1.55			
Copper (ppm)	3.6			
Iron (ppm)	123			
Manganese (ppm)	134			
Molybdenum (ppm)	0.04			
Zinc (ppm)	4.0			

Released by . [redacted] ...Laboratory Manager on behalf of Lancrop Laboratories

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Tel: + 44 1759 305116
[redacted]

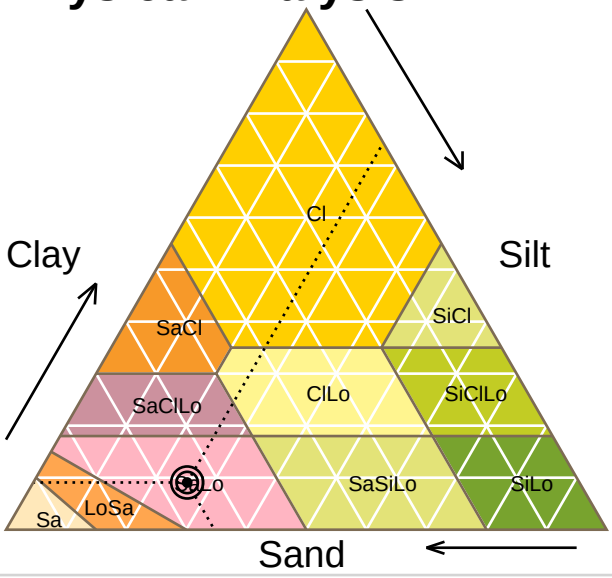
PAAG Professional Agricultural Analysis Group

Analysis Results (SOIL)

Customer DEMETER
Sample Ref SMITHS T1
Sample No E204194/01
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 16/09/2020 (Date Issued: 23/09/2020)

Physical Analysis



Analysis	Result (%)
Sand	65.30
Silt	25.62
Clay	9.08
Soil Type	SaLo Sandy Loam

Property	Assessment
Available Water	Low to Medium
Drainage Rate	Rapid
Inherent Fertility	Low to Medium
Potential C.E.C.	Low to Medium
Leaching Risk	High to Moderate
Warming Rate	Rapid

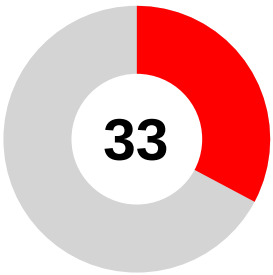
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	22	>70
Organic Carbon (%)	0.6	
Total Nitrogen (%)	0.075	
C:N Ratio	7.8	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	514
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	15
Soil Assessment Score	33/100

Soil Assessment Score



Microbial Biomass and Potentially Mineralizable N are calculated from the Solvita CO2-C Burst. The Potentially Mineralizable N assumes ideal conditions. Soil Assessment Score is calculated from biological, chemical and physical results.

pH impact on soil biology

Increasing Acidity
Fungi thrive
Bacterial activity declines
Nutrient cycling drops

Neutral
Desirable fungal and bacterial activity
Good earthworm activity
Nutrient cycling thrives

Increasing Alkalinity
Fungal activiy declines
Bacteria thrive
Nutrient cycling drops

Lancrop Laboratories, Pocklington, UK, YO42 1DN. soilanalysis@yara.com +44 1759305116

Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref SMITHS T1
Sample No E204194/01
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 16/09/2020 (Date Issued: 23/09/2020)

Analysis	Result	Guideline	Comments
pH	8.2	6.5	High. An alkaline environment will reduce the availability of certain nutrients - particularly P, K, B, Co, Cu, Fe, Mn and Zn. An elevated pH will also impact on beneficial soil fungal populations and activity.
Org. Matter - DUMAS (%)	1.0	3.0	Low. Soils with medium to high levels of organic matter would generally be expected to have a good potential fertility and good structure, moisture retention and water infiltration. Investigate soil conditons to establish if soil management practices can improve levels of organic matter.
C.E.C. (meq/100g)	24.1	15.0	Cation Exchange Capacity indicates a soil with a good nutrient holding ability.
Soil Respiration (mg/kg)	22	70	Low aerobic microbial activity and mineralisation potential. Further investigation of soil conditons is recommended to establish if soil management practices can improve biological fertility.
C:N Ratio	7.8	10.0	Very low. A low C:N ratio in the soil encourages microbial activity and the amount and rate of nutrients made available to the plants through mineralisation. The ratio of less than 8 indicates the potential for a rapid decompostion of organic residue and a very low retention of applied organic materials.
Texture Class	SALO		
Org. Carbon Stock (t/ha)	11.3		
Phosphorus (ppm)	23	26	**(Index 2.7)**
Potassium (ppm)	86	241	**(Index 1.4)**
Magnesium (ppm)	44	100	**(Index 1.7)**
Calcium (ppm)	4707	1600	
Sulphur (ppm)	1	10	
Sodium (ppm)	25	90	
Boron (ppm)	1.55	2.10	

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Sample Ref SMITHS T1
Sample No E204194/01
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 16/09/2020 (Date Issued: 23/09/2020)

Analysis	Result	Guideline	Comments
Copper (ppm)	3.6	2.1	
Iron (ppm)	123	50	
Manganese (ppm)	134	110	
Molybdenum (ppm)	0.04	0.20	
Zinc (ppm)	4.0	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3 (if an in-lab bulk density has not been performed) and sampling depth of 15 cm.
To recalculate the Carbon Stock using other depths and bulk densities please use this calculation:
Carbon (%) x Sampling Depth (cm) x Bulk Density (g/cm3) = Carbon Stock (t/ha)
E.g. 4.0% x 15cm x 1.3 g/cm3 = 78 t/ha carbon stock.
Where applicable soil applied P,K and pH recommendations are taken from AHDB Nutrient Management Guide (RB209)

Any indicated Lime Requirement assumes a medium textured soil.
Additional technical bulletins are available at [redacted]

Please Note

Whilst every care is taken to ensure that the Results from Analysis are as accurate as possible, it is important to note that the analysis relates to the sample received by the laboratory, and is representative only of that sample. No warranty is given by the laboratory that the Results from Analysis relates to any part of a field or growing area not covered by the sample received. It is important to ensure that any soil, leaf, silage or fruitlet sample sent for analysis is representative of the area requiring analysis and that samples are obtained in accordance with established sampling techniques. A leaflet containing instructions on how to take soil, leaf, herbage, silage and fruit samples for analysis is available from the laboratory on request. Uncertainty measurements of results are available on request

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Analysis Results (SOIL)

Customer DEMETER
FRECKENHAM FM

Distributor DEMETER TECHNOLOGY
5 ST ANDREWS CLOSE
ISLEHAM
CAMBS
CB7 5TB

Sample Ref T3

Date Received 16/09/2020 (Date Issued: 23/09/2020)

Sample No E204194/02

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.2			
Org. Matter - DUMAS (%)	1.6			
C.E.C. (meq/100g)	11.3			
Soil Respiration (mg/kg)	17			
C:N Ratio	10.6			
Texture Class	CLLO			
Org. Carbon Stock (t/ha)	18.1			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	16						
Potassium (ppm)	146						
Magnesium (ppm)	66						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	2595			
Sulphur (ppm)	7			
Sodium (ppm)	22			
Boron (ppm)	1.84			
Copper (ppm)	3.8			
Iron (ppm)	39			
Manganese (ppm)	64			
Molybdenum (ppm)	0.04			
Zinc (ppm)	3.9			

Released by .. [redacted] .Laboratory Manager on behalf of Lancrop Laboratories

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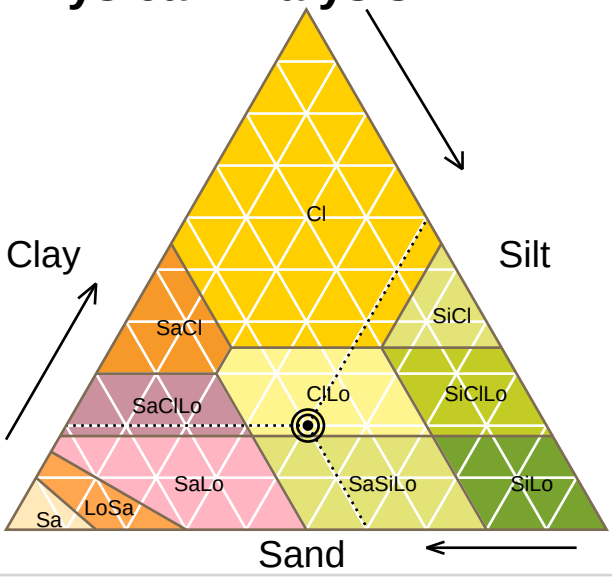
Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	T3	**Date Received**	16/09/2020 (Date Issued: 23/09/2020)
Sample No	E204194/02		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	39.72
Silt	40.25
Clay	20.03
Soil Type	ClLo Clay Loam

Property	Assessment
Available Water	Medium to High
Drainage Rate	Medium to Slow
Inherent Fertility	Medium to High
Potential C.E.C.	Medium to High
Leaching Risk	Moderate to Low
Warming Rate	Medium

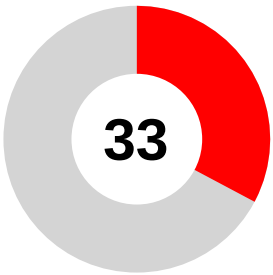
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	17	>70
Organic Carbon (%)	0.9	
Total Nitrogen (%)	0.088	
C:N Ratio	10.6	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	404
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	11
Soil Assessment Score	33/100

Soil Assessment Score



Microbial Biomass and Potentially Mineralizable N are calculated from the Solvita CO2-C Burst. The Potentially Mineralizable N assumes ideal conditions. Soil Assessment Score is calculated from biological, chemical and physical results.

pH impact on soil biology

Increasing Acidity
Fungi thrive
Bacterial activity declines
Nutrient cycling drops

Neutral
Desirable fungal and bacterial activity
Good earthworm activity
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Increasing Alkalinity
Fungal activiy declines
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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref T3
Sample No E204194/02
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 16/09/2020 (Date Issued: 23/09/2020)

Analysis	Result	Guideline	Comments
pH	8.2	6.5	High. An alkaline environment will reduce the availability of certain nutrients - particularly P, K, B, Co, Cu, Fe, Mn and Zn. An elevated pH will also impact on beneficial soil fungal populations and activity.
Org. Matter - DUMAS (%)	1.6	3.0	Low. Soils with medium to high levels of organic matter would generally be expected to have a good potential fertility and good structure, moisture retention and water infiltration. Investigate soil conditons to establish if soil management practices can improve levels of organic matter.
C.E.C. (meq/100g)	11.3	15.0	Cation Exchange Capacity indicates a slightly low nutrient holding ability - soil applied nutrients could be readily leached. Where possible foliar applied nutrients should be recommended.
Soil Respiration (mg/kg)	17	70	Low aerobic microbial activity and mineralisation potential. Further investigation of soil conditons is recommended to establish if soil management practices can improve biological fertility.
C:N Ratio	10.6	10.0	Normal. A low C:N ratio in the soil encourages microbial activity and the amount and rate of nutrients made available to the plants through mineralisation. A ratio of 10 - 12 indicates the potential for a good rate of decompostion of organic residue and retention of applied organic materials.
Texture Class	CLLO		
Org. Carbon Stock (t/ha)	18.1		
Phosphorus (ppm)	16	26	**(Index 2.0)**
Potassium (ppm)	146	241	**(Index 2.2)**
Magnesium (ppm)	66	100	**(Index 2.3)**
Calcium (ppm)	2595	1600	
Sulphur (ppm)	7	10	
Sodium (ppm)	22	90	
Boron (ppm)	1.84	2.10	

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Analysis Results (SOIL)

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Sample Ref T3
Sample No E204194/02
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 16/09/2020 (Date Issued: 23/09/2020)

Analysis	Result	Guideline	Comments
Copper (ppm)	3.8	2.1	
Iron (ppm)	39	50	
Manganese (ppm)	64	110	
Molybdenum (ppm)	0.04	0.20	
Zinc (ppm)	3.9	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3 (if an in-lab bulk density has not been performed) and sampling depth of 15 cm.
To recalculate the Carbon Stock using other depths and bulk densities please use this calculation:
Carbon (%) x Sampling Depth (cm) x Bulk Density (g/cm3) = Carbon Stock (t/ha)
E.g. 4.0% x 15cm x 1.3 g/cm3 = 78 t/ha carbon stock.
Where applicable soil applied P,K and pH recommendations are taken from AHDB Nutrient Management Guide (RB209)

Any indicated Lime Requirement assumes a medium textured soil.
Additional technical bulletins are available at [redacted]

Please Note

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Analysis Results (SOIL)

Customer DEMETER
FRECKENHAM FM

Distributor DEMETER TECHNOLOGY
5 ST ANDREWS CLOSE
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CB7 5TB

Sample Ref THOMPSON T7

Date Received 16/09/2020 (Date Issued: 23/09/2020)

Sample No E204194/03

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	7.9			
Org. Matter - DUMAS (%)	1.6			
C.E.C. (meq/100g)	21.5			
Soil Respiration (mg/kg)	59			
C:N Ratio	11.9			
Texture Class	LOSA			
Org. Carbon Stock (t/ha)	18.1			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	61						
Potassium (ppm)	194						
Magnesium (ppm)	46						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	4126			
Sulphur (ppm)	5			
Sodium (ppm)	25			
Boron (ppm)	1.39			
Copper (ppm)	4.8			
Iron (ppm)	203			
Manganese (ppm)	75			
Molybdenum (ppm)	0.04			
Zinc (ppm)	13.3			

Released by .. [redacted] ..Laboratory Manager on behalf of Lancrop Laboratories

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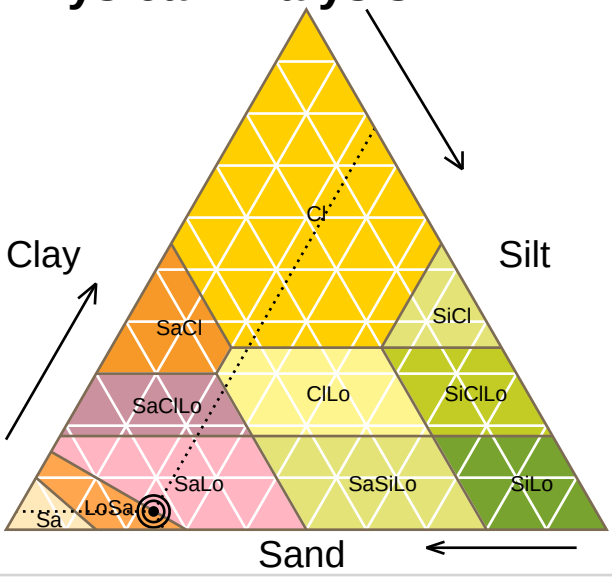
Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	THOMPSON T7	**Date Received**	16/09/2020 (Date Issued: 23/09/2020)
Sample No	E204194/03		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	73.67
Silt	22.82
Clay	3.51
Soil Type	LoSa Loamy Sand

Property	Assessment
Available Water	Low to Medium
Drainage Rate	Rapid
Inherent Fertility	Low to Medium
Potential C.E.C.	Low to Medium
Leaching Risk	High to Moderate
Warming Rate	Rapid

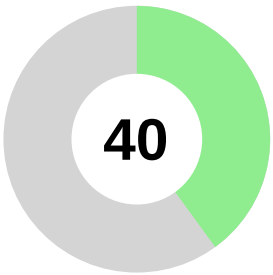
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	59	>70
Organic Carbon (%)	0.9	
Total Nitrogen (%)	0.078	
C:N Ratio	11.9	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	1328
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	33
Soil Assessment Score	40/100

Soil Assessment Score



Microbial Biomass and Potentially Mineralizable N are calculated from the Solvita CO2-C Burst. The Potentially Mineralizable N assumes ideal conditions. Soil Assessment Score is calculated from biological, chemical and physical results.

pH impact on soil biology

Increasing Acidity
Fungi thrive
Bacterial activity declines
Nutrient cycling drops

Neutral
Desirable fungal and bacterial activity
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Increasing Alkalinity
Fungal activiy declines
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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref THOMPSON T7
Sample No E204194/03
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 16/09/2020 (Date Issued: 23/09/2020)

Analysis	Result	Guideline	Comments
pH	7.9	6.5	High. An alkaline environment will reduce the availability of certain nutrients - particularly P, K, B, Co, Cu, Fe, Mn and Zn. An elevated pH will also impact on beneficial soil fungal populations and activity.
Org. Matter - DUMAS (%)	1.6	3.0	Low. Soils with medium to high levels of organic matter would generally be expected to have a good potential fertility and good structure, moisture retention and water infiltration. Investigate soil conditons to establish if soil management practices can improve levels of organic matter.
C.E.C. (meq/100g)	21.5	15.0	Cation Exchange Capacity indicates a soil with a good nutrient holding ability.
Soil Respiration (mg/kg)	59	70	Slightly low aerobic microbial activity and mineralisation potential. Further investigation of soil conditons is recommended to establish if soil management practices can improve biological fertility.
C:N Ratio	11.9	10.0	Normal. A low C:N ratio in the soil encourages microbial activity and the amount and rate of nutrients made available to the plants through mineralisation. A ratio of 10 - 12 indicates the potential for a good rate of decompostion of organic residue and retention of applied organic materials.
Texture Class	LOSA		
Org. Carbon Stock (t/ha)	18.1		
Phosphorus (ppm)	61	26	**(Index 4.6)**
Potassium (ppm)	194	241	**(Index 2.6)**
Magnesium (ppm)	46	100	**(Index 1.8)**
Calcium (ppm)	4126	1600	
Sulphur (ppm)	5	10	
Sodium (ppm)	25	90	
Boron (ppm)	1.39	2.10	

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Analysis Results (SOIL)

Customer DEMETER
Sample Ref THOMPSON T7
Sample No E204194/03
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 16/09/2020 (Date Issued: 23/09/2020)

Analysis	Result	Guideline	Comments
Copper (ppm)	4.8	2.1	
Iron (ppm)	203	50	
Manganese (ppm)	75	110	
Molybdenum (ppm)	0.04	0.20	
Zinc (ppm)	13.3	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3 (if an in-lab bulk density has not been performed) and sampling depth of 15 cm.
To recalculate the Carbon Stock using other depths and bulk densities please use this calculation:
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Where applicable soil applied P,K and pH recommendations are taken from AHDB Nutrient Management Guide (RB209)

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Additional technical bulletins are available at [redacted].

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Analysis Results (SOIL)

Customer DEMETER
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Distributor DEMETER TECHNOLOGY
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CB7 5TB

Sample Ref ISLEHAM RD T25

Date Received 16/09/2020 (Date Issued: 23/09/2020)

Sample No E204194/04

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.4			
Org. Matter - DUMAS (%)	1.8			
C.E.C. (meq/100g)	9.7			
Soil Respiration (mg/kg)	32			
C:N Ratio	11.8			
Texture Class	CLLO			
Org. Carbon Stock (t/ha)	20.4			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	15						
Potassium (ppm)	195						
Magnesium (ppm)	60						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	2197			
Sulphur (ppm)	6			
Sodium (ppm)	40			
Boron (ppm)	1.40			
Copper (ppm)	3.0			
Iron (ppm)	40			
Manganese (ppm)	62			
Molybdenum (ppm)	0.05			
Zinc (ppm)	3.9			

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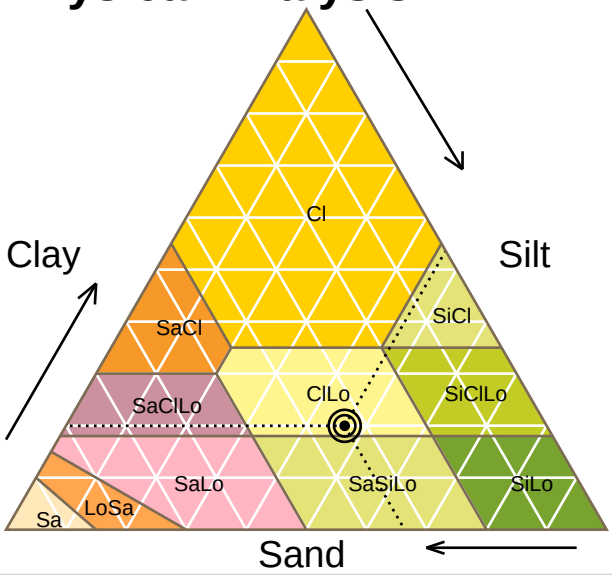
Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	ISLEHAM RD T25	**Date Received**	16/09/2020 (Date Issued: 23/09/2020)
Sample No	E204194/04		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	33.63
Silt	46.40
Clay	19.97
Soil Type	ClLo Clay Loam

Property	Assessment
Available Water	Medium to High
Drainage Rate	Medium to Slow
Inherent Fertility	Medium to High
Potential C.E.C.	Medium to High
Leaching Risk	Moderate to Low
Warming Rate	Medium

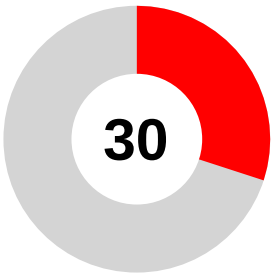
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	32	>70
Organic Carbon (%)	1.0	
Total Nitrogen (%)	0.089	
C:N Ratio	11.8	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	734
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	18
Soil Assessment Score	30/100

Soil Assessment Score



Microbial Biomass and Potentially Mineralizable N are calculated from the Solvita CO2-C Burst. The Potentially Mineralizable N assumes ideal conditions. Soil Assessment Score is calculated from biological, chemical and physical results.

pH impact on soil biology

Increasing Acidity
Fungi thrive
Bacterial activity declines
Nutrient cycling drops

Neutral
Desirable fungal and bacterial activity
Good earthworm activity
Nutrient cycling thrives

Increasing Alkalinity
Fungal activiy declines
Bacteria thrive
Nutrient cycling drops

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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref ISLEHAM RD T25
Sample No E204194/04
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 16/09/2020 (Date Issued: 23/09/2020)

Analysis	Result	Guideline	Comments
pH	8.4	6.5	High. An alkaline environment will reduce the availability of certain nutrients - particularly P, K, B, Co, Cu, Fe, Mn and Zn. An elevated pH will also impact on beneficial soil fungal populations and activity.
Org. Matter - DUMAS (%)	1.8	3.0	Low. Soils with medium to high levels of organic matter would generally be expected to have a good potential fertility and good structure, moisture retention and water infiltration. Investigate soil conditons to establish if soil management practices can improve levels of organic matter.
C.E.C. (meq/100g)	9.7	15.0	Cation Exchange Capacity indicates a low nutrient holding ability - soil applied nutrients will be readily leached. Where possible foliar applied nutrients should be recommended.
Soil Respiration (mg/kg)	32	70	Slightly low aerobic microbial activity and mineralisation potential. Further investigation of soil conditons is recommended to establish if soil management practices can improve biological fertility.
C:N Ratio	11.8	10.0	Normal. A low C:N ratio in the soil encourages microbial activity and the amount and rate of nutrients made available to the plants through mineralisation. A ratio of 10 - 12 indicates the potential for a good rate of decompostion of organic residue and retention of applied organic materials.
Texture Class	CLLO		
Org. Carbon Stock (t/ha)	20.4		
Phosphorus (ppm)	15	26	**(Index 1.8)**
Potassium (ppm)	195	241	**(Index 2.6)**
Magnesium (ppm)	60	100	**(Index 2.2)**
Calcium (ppm)	2197	1600	
Sulphur (ppm)	6	10	
Sodium (ppm)	40	90	
Boron (ppm)	1.40	2.10	

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PAAG Professional Agricultural Analysis Group

Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref ISLEHAM RD T25
Sample No E204194/04
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 16/09/2020 (Date Issued: 23/09/2020)

Analysis	Result	Guideline	Comments
Copper (ppm)	3.0	2.1	
Iron (ppm)	40	50	
Manganese (ppm)	62	110	
Molybdenum (ppm)	0.05	0.20	
Zinc (ppm)	3.9	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3 (if an in-lab bulk density has not been performed) and sampling depth of 15 cm.
To recalculate the Carbon Stock using other depths and bulk densities please use this calculation:
Carbon (%) x Sampling Depth (cm) x Bulk Density (g/cm3) = Carbon Stock (t/ha)
E.g. 4.0% x 15cm x 1.3 g/cm3 = 78 t/ha carbon stock.
Where applicable soil applied P,K and pH recommendations are taken from AHDB Nutrient Management Guide (RB209)

Any indicated Lime Requirement assumes a medium textured soil.
Additional technical bulletins are available at [redacted]

Please Note

Whilst every care is taken to ensure that the Results from Analysis are as accurate as possible, it is important to note that the analysis relates to the sample received by the laboratory, and is representative only of that sample. No warranty is given by the laboratory that the Results from Analysis relates to any part of a field or growing area not covered by the sample received. It is important to ensure that any soil, leaf, silage or fruitlet sample sent for analysis is representative of the area requiring analysis and that samples are obtained in accordance with established sampling techniques. A leaflet containing instructions on how to take soil, leaf, herbage, silage and fruit samples for analysis is available from the laboratory on request. Uncertainty measurements of results are available on request

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Analysis Results (SOIL)

Customer DEMETER
FRECKENHAM FM

Distributor DEMETER TECHNOLOGY
5 ST ANDREWS CLOSE
ISLEHAM
CAMBS
CB7 5TB

Sample Ref WEST RD T29

Date Received 16/09/2020 (Date Issued: 23/09/2020)

Sample No E204194/05

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.0			
Org. Matter - DUMAS (%)	1.0			
C.E.C. (meq/100g)	8.0			
Soil Respiration (mg/kg)	24			
C:N Ratio	10.8			
Texture Class	LOSA			
Org. Carbon Stock (t/ha)	11.3			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	30						
Potassium (ppm)	97						
Magnesium (ppm)	30						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	1897			
Sulphur (ppm)	4			
Sodium (ppm)	10			
Boron (ppm)	1.28			
Copper (ppm)	2.5			
Iron (ppm)	58			
Manganese (ppm)	84			
Molybdenum (ppm)	0.03			
Zinc (ppm)	7.8			

Released by . [redacted] .Laboratory Manager on behalf of Lancrop Laboratories

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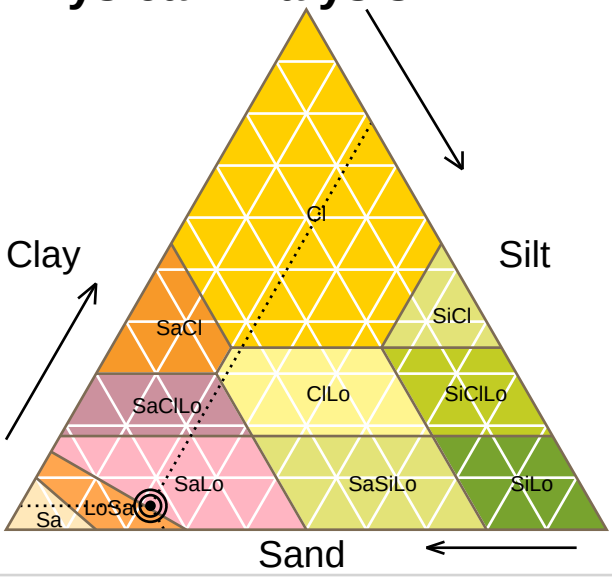
PAAG Professional Agricultural Analysis Group

Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	WEST RD T29	**Date Received**	16/09/2020 (Date Issued: 23/09/2020)
Sample No	E204194/05		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	73.66
Silt	21.75
Clay	4.59
Soil Type	SaLo Sandy Loam

Property	Assessment
Available Water	Low to Medium
Drainage Rate	Rapid
Inherent Fertility	Low to Medium
Potential C.E.C.	Low to Medium
Leaching Risk	High to Moderate
Warming Rate	Rapid

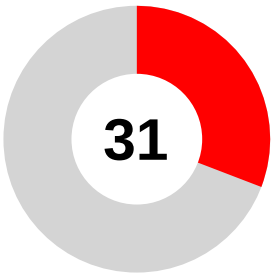
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	24	>70
Organic Carbon (%)	0.6	
Total Nitrogen (%)	0.054	
C:N Ratio	10.8	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	558
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	15
Soil Assessment Score	31/100

Soil Assessment Score



Microbial Biomass and Potentially Mineralizable N are calculated from the Solvita CO2-C Burst. The Potentially Mineralizable N assumes ideal conditions. Soil Assessment Score is calculated from biological, chemical and physical results.

pH impact on soil biology

Increasing Acidity
Fungi thrive
Bacterial activity declines
Nutrient cycling drops

Neutral
Desirable fungal and bacterial activity
Good earthworm activity
Nutrient cycling thrives

Increasing Alkalinity
Fungal activiy declines
Bacteria thrive
Nutrient cycling drops

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Analysis Results (SOIL)

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Sample No E204194/05
Crop NON STATED

Distributor DEMETER TECHNOLOGY
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C.E.C. (meq/100g)	8.0	15.0	Cation Exchange Capacity indicates a low nutrient holding ability - soil applied nutrients will be readily leached. Where possible foliar applied nutrients should be recommended.
Soil Respiration (mg/kg)	24	70	Low aerobic microbial activity and mineralisation potential. Further investigation of soil conditons is recommended to establish if soil management practices can improve biological fertility.
C:N Ratio	10.8	10.0	Normal. A low C:N ratio in the soil encourages microbial activity and the amount and rate of nutrients made available to the plants through mineralisation. A ratio of 10 - 12 indicates the potential for a good rate of decompostion of organic residue and retention of applied organic materials.
Texture Class	LOSA		
Org. Carbon Stock (t/ha)	11.3		
Phosphorus (ppm)	30	26	**(Index 3.2)**
Potassium (ppm)	97	241	**(Index 1.6)**
Magnesium (ppm)	30	100	**(Index 1.2)**
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Sodium (ppm)	10	90	
Boron (ppm)	1.28	2.10	

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Analysis Results (SOIL)

Customer DEMETER
Sample Ref WEST RD T29
Sample No E204194/05
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 16/09/2020 (Date Issued: 23/09/2020)

Analysis	Result	Guideline	Comments
Copper (ppm)	2.5	2.1	
Iron (ppm)	58	50	
Manganese (ppm)	84	110	
Molybdenum (ppm)	0.03	0.20	
Zinc (ppm)	7.8	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3 (if an in-lab bulk density has not been performed) and sampling depth of 15 cm.
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