Analysis Results (SOIL)

Customer DEMETER

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

Sample Ref COUNTY COUNCIL SUBSOIL 1

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021447/01

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.2			
Org. Matter - DUMAS (%)	1.0			
C.E.C. (meq/100g)	9.4			
Soil Respiration (mg/kg)	35			
C:N Ratio	15.3			
Texture Class	CLLO			
Org. Carbon Stock (t/ha)	11.3			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	10						
Potassium (ppm)	69						
Magnesium (ppm)	28						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	2259			
Sulphur (ppm)	4			
Sodium (ppm)	12			
Boron (ppm)	0.35			
Copper (ppm)	1.4			
Iron (ppm)	81			
Manganese (ppm)	56			
Molybdenum (ppm)	0.04			
Zinc (ppm)	1.6			

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

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Pocklington, York, YO42 1DN
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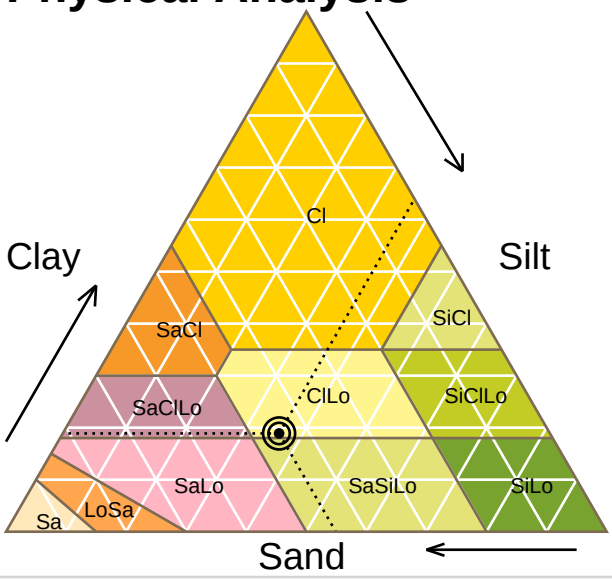
PAAG Professional Agricultural Analysis Group

Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	COUNTY COUNCIL SUBSOIL 1	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021447/01		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	45.09
Silt	36.02
Clay	18.89
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

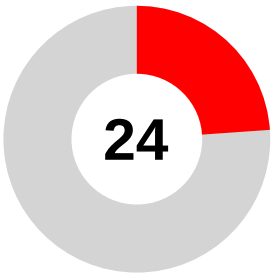
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	35	>70
Organic Carbon (%)	0.6	
Total Nitrogen (%)	0.038	
C:N Ratio	15.3	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	800
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	15
Soil Assessment Score	24/100

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 COUNTY COUNCIL SUBSOIL 1
Sample No G021447/01
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

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)	9.4	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)	35	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	15.3	10.0	High. 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 12 - 25 indicates the potential for a slow rate of decompostion of organic residue and a high retention of applied organic materials.
Texture Class	CLLO		
Org. Carbon Stock (t/ha)	11.3	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	10	26	**(Index 1.0)**
Potassium (ppm)	69	241	**(Index 1.1)**
Magnesium (ppm)	28	100	**(Index 1.1)**
Calcium (ppm)	2259	1600	
Sulphur (ppm)	4	10	
Sodium (ppm)	12	90	
Boron (ppm)	0.35	2.10	

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Analysis Results (SOIL)

Customer DEMETER
Sample Ref COUNTY COUNCIL SUBSOIL 1
Sample No G021447/01
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	1.4	2.1	
Iron (ppm)	81	50	
Manganese (ppm)	56	110	
Molybdenum (ppm)	0.04	0.20	
Zinc (ppm)	1.6	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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

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

Sample Ref COUNTY COUNCIL TOPSOIL 1

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021447/02

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.1			
Org. Matter - DUMAS (%)	2.0			
C.E.C. (meq/100g)	11.6			
Soil Respiration (mg/kg)	51			
C:N Ratio	11.2			
Texture Class	CLLO			
Org. Carbon Stock (t/ha)	22.7			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	27						
Potassium (ppm)	210						
Magnesium (ppm)	36						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	2697			
Sulphur (ppm)	8			
Sodium (ppm)	12			
Boron (ppm)	1.22			
Copper (ppm)	3.4			
Iron (ppm)	35			
Manganese (ppm)	62			
Molybdenum (ppm)	0.03			
Zinc (ppm)	3.7			

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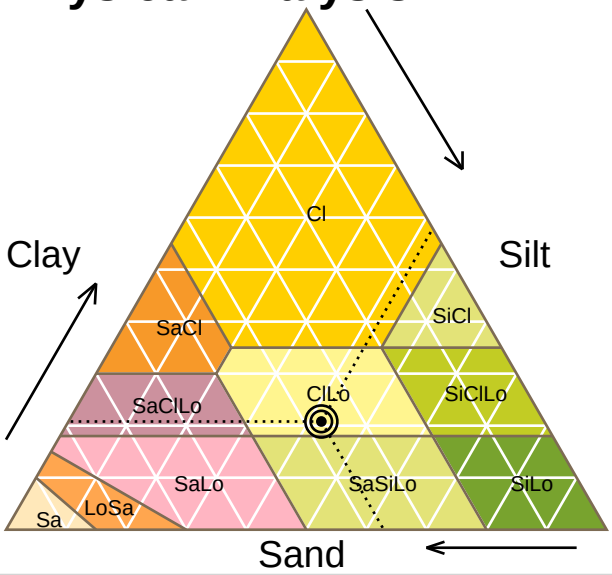
Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	COUNTY COUNCIL TOPSOIL 1	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021447/02		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	37.10
Silt	42.10
Clay	20.80
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

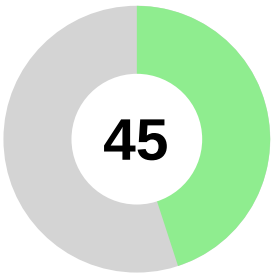
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	51	>70
Organic Carbon (%)	1.2	
Total Nitrogen (%)	0.104	
C:N Ratio	11.2	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	1152
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	31
Soil Assessment Score	45/100

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 COUNTY COUNCIL TOPSOIL 1
Sample No G021447/02
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	8.1	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 (%)	2.0	3.0	Slightly 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)	11.6	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)	51	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	11.2	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)	22.7	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	27	26	**(Index 3.1)**
Potassium (ppm)	210	241	**(Index 2.7)**
Magnesium (ppm)	36	100	**(Index 1.4)**
Calcium (ppm)	2697	1600	
Sulphur (ppm)	8	10	
Sodium (ppm)	12	90	
Boron (ppm)	1.22	2.10	

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Analysis Results (SOIL)

Customer DEMETER
Sample Ref COUNTY COUNCIL TOPSOIL 1
Sample No G021447/02
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	3.4	2.1	
Iron (ppm)	35	50	
Manganese (ppm)	62	110	
Molybdenum (ppm)	0.03	0.20	
Zinc (ppm)	3.7	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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].

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Analysis Results (SOIL)

Customer DEMETER

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

Sample Ref COUNTY COUNCIL TOPSOIL 2

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021447/03

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.2			
Org. Matter - DUMAS (%)	2.6			
C.E.C. (meq/100g)	13.1			
Soil Respiration (mg/kg)	50			
C:N Ratio	11.2			
Texture Class	CLLO			
Org. Carbon Stock (t/ha)	29.5			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	20						
Potassium (ppm)	339						
Magnesium (ppm)	46						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	2950			
Sulphur (ppm)	9			
Sodium (ppm)	19			
Boron (ppm)	1.40			
Copper (ppm)	4.0			
Iron (ppm)	37			
Manganese (ppm)	61			
Molybdenum (ppm)	0.03			
Zinc (ppm)	5.2			

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

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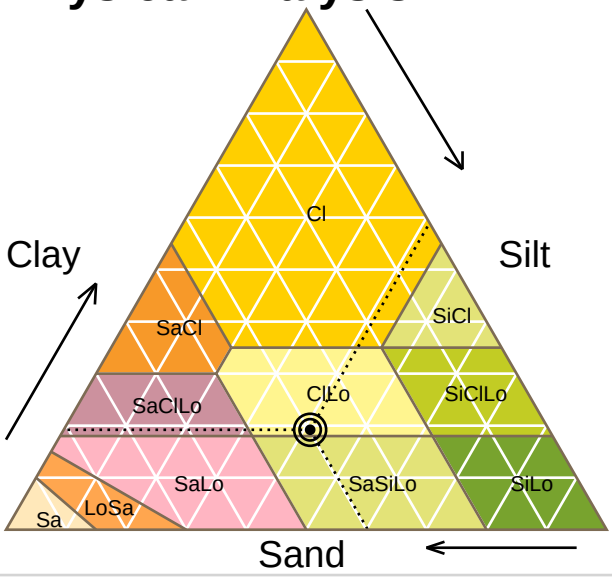
Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	COUNTY COUNCIL TOPSOIL 2	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021447/03		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	39.76
Silt	41.03
Clay	19.21
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

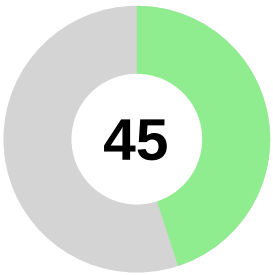
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	50	>70
Organic Carbon (%)	1.5	
Total Nitrogen (%)	0.135	
C:N Ratio	11.2	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	1130
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	30
Soil Assessment Score	45/100

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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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref COUNTY COUNCIL TOPSOIL 2
Sample No G021447/03
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

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 (%)	2.6	3.0	Slightly 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)	13.1	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)	50	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	11.2	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)	29.5	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	20	26	**(Index 2.4)**
Potassium (ppm)	339	241	**(Index 3.6)**
Magnesium (ppm)	46	100	**(Index 1.8)**
Calcium (ppm)	2950	1600	
Sulphur (ppm)	9	10	
Sodium (ppm)	19	90	
Boron (ppm)	1.40	2.10	

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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref COUNTY COUNCIL TOPSOIL 2
Sample No G021447/03
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	4.0	2.1	
Iron (ppm)	37	50	
Manganese (ppm)	61	110	
Molybdenum (ppm)	0.03	0.20	
Zinc (ppm)	5.2	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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)

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

Sample Ref COUNTY COUNCIL SUBSOIL 2

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021447/04

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.3			
Org. Matter - DUMAS (%)	1.4			
C.E.C. (meq/100g)	11.3			
Soil Respiration (mg/kg)	24			
C:N Ratio	11.5			
Texture Class	SASILO			
Org. Carbon Stock (t/ha)	15.9			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	15						
Potassium (ppm)	168						
Magnesium (ppm)	36						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	2640			
Sulphur (ppm)	15			
Sodium (ppm)	16			
Boron (ppm)	0.80			
Copper (ppm)	2.2			
Iron (ppm)	30			
Manganese (ppm)	38			
Molybdenum (ppm)	0.03			
Zinc (ppm)	2.6			

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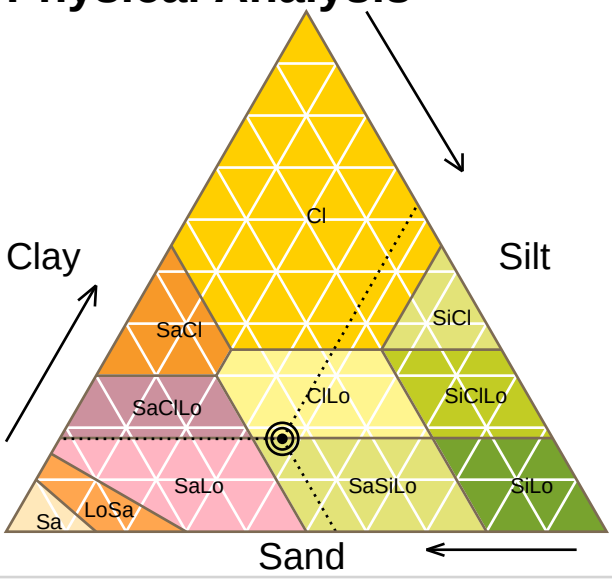
PAAG Professional Agricultural Analysis Group

Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	COUNTY COUNCIL SUBSOIL 2	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021447/04		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	45.07
Silt	37.07
Clay	17.86
Soil Type	SaSiLo Sandy Silt 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

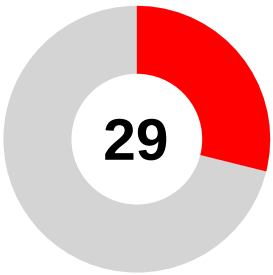
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	24	>70
Organic Carbon (%)	0.8	
Total Nitrogen (%)	0.071	
C:N Ratio	11.5	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	558
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	14
Soil Assessment Score	29/100

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 COUNTY COUNCIL SUBSOIL 2
Sample No G021447/04
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	8.3	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 (%)	1.4	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)	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	11.5	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	SASILO		
Org. Carbon Stock (t/ha)	15.9	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	15	26	**(Index 1.8)**
Potassium (ppm)	168	241	**(Index 2.4)**
Magnesium (ppm)	36	100	**(Index 1.4)**
Calcium (ppm)	2640	1600	
Sulphur (ppm)	15	10	
Sodium (ppm)	16	90	
Boron (ppm)	0.80	2.10	

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Analysis Results (SOIL)

Customer DEMETER
Sample Ref COUNTY COUNCIL SUBSOIL 2
Sample No G021447/04
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	2.2	2.1	
Iron (ppm)	30	50	
Manganese (ppm)	38	110	
Molybdenum (ppm)	0.03	0.20	
Zinc (ppm)	2.6	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER

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

Sample Ref COUNTY COUNCIL TOPSOIL 3

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021447/05

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.1			
Org. Matter - DUMAS (%)	2.0			
C.E.C. (meq/100g)	13.8			
Soil Respiration (mg/kg)	48			
C:N Ratio	10.4			
Texture Class	CLLO			
Org. Carbon Stock (t/ha)	22.7			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	35						
Potassium (ppm)	181						
Magnesium (ppm)	49						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	3196			
Sulphur (ppm)	8			
Sodium (ppm)	17			
Boron (ppm)	1.80			
Copper (ppm)	4.7			
Iron (ppm)	39			
Manganese (ppm)	55			
Molybdenum (ppm)	0.06			
Zinc (ppm)	4.9			

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

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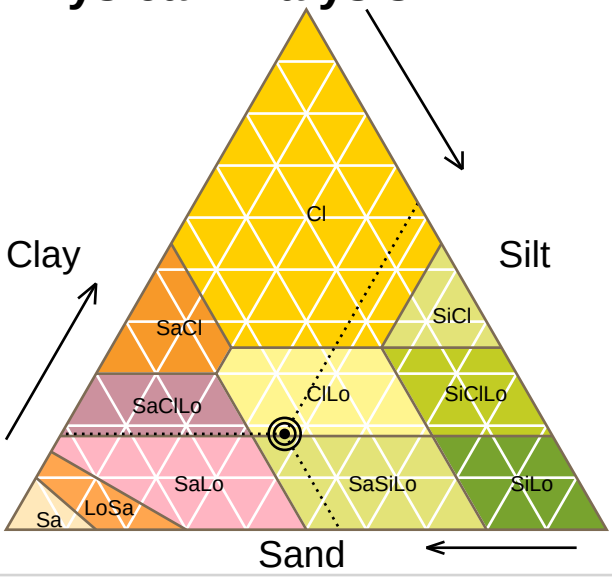
Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	COUNTY COUNCIL TOPSOIL 3	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021447/05		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	44.40
Silt	37.18
Clay	18.42
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

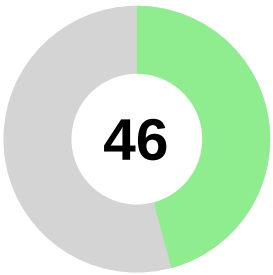
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	48	>70
Organic Carbon (%)	1.2	
Total Nitrogen (%)	0.112	
C:N Ratio	10.4	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	1086
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	31
Soil Assessment Score	46/100

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 COUNTY COUNCIL TOPSOIL 3
Sample No G021447/05
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	8.1	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 (%)	2.0	3.0	Slightly 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)	13.8	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)	48	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	10.4	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)	22.7	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	35	26	**(Index 3.5)**
Potassium (ppm)	181	241	**(Index 2.5)**
Magnesium (ppm)	49	100	**(Index 1.9)**
Calcium (ppm)	3196	1600	
Sulphur (ppm)	8	10	
Sodium (ppm)	17	90	
Boron (ppm)	1.80	2.10	

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PAAG Professional Agricultural Analysis Group

Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref COUNTY COUNCIL TOPSOIL 3
Sample No G021447/05
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	4.7	2.1	
Iron (ppm)	39	50	
Manganese (ppm)	55	110	
Molybdenum (ppm)	0.06	0.20	
Zinc (ppm)	4.9	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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

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

Sample Ref COUNTY COUNCIL SUBSOIL 3

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021447/06

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.3			
Org. Matter - DUMAS (%)	1.3			
C.E.C. (meq/100g)	12.2			
Soil Respiration (mg/kg)	20			
C:N Ratio	11.5			
Texture Class	SASILO			
Org. Carbon Stock (t/ha)	14.7			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	14						
Potassium (ppm)	92						
Magnesium (ppm)	48						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	2876			
Sulphur (ppm)	8			
Sodium (ppm)	13			
Boron (ppm)	0.81			
Copper (ppm)	2.9			
Iron (ppm)	35			
Manganese (ppm)	45			
Molybdenum (ppm)	0.04			
Zinc (ppm)	1.9			

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

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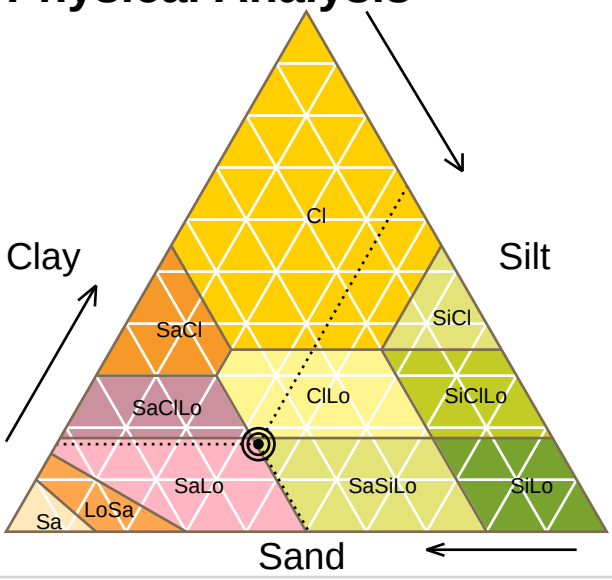
Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	COUNTY COUNCIL SUBSOIL 3	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021447/06		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	49.56
Silt	33.61
Clay	16.83
Soil Type	SaSiLo Sandy Silt 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

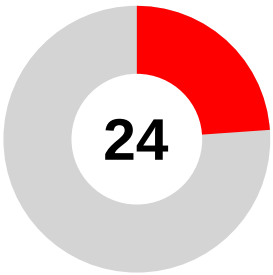
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	20	>70
Organic Carbon (%)	0.8	
Total Nitrogen (%)	0.066	
C:N Ratio	11.5	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	470
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	12
Soil Assessment Score	24/100

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 COUNTY COUNCIL SUBSOIL 3
Sample No G021447/06
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	8.3	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 (%)	1.3	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)	12.2	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)	20	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	11.5	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	SASILO		
Org. Carbon Stock (t/ha)	14.7	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	14	26	**(Index 1.7)**
Potassium (ppm)	92	241	**(Index 1.5)**
Magnesium (ppm)	48	100	**(Index 1.9)**
Calcium (ppm)	2876	1600	
Sulphur (ppm)	8	10	
Sodium (ppm)	13	90	
Boron (ppm)	0.81	2.10	

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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref COUNTY COUNCIL SUBSOIL 3
Sample No G021447/06
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	2.9	2.1	
Iron (ppm)	35	50	
Manganese (ppm)	45	110	
Molybdenum (ppm)	0.04	0.20	
Zinc (ppm)	1.9	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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]

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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER

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

Sample Ref COUNTY COUNCIL 4 TOPSOIL <35CM

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021447/07

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.1			
Org. Matter - DUMAS (%)	1.9			
C.E.C. (meq/100g)	14.1			
Soil Respiration (mg/kg)	44			
C:N Ratio	10.9			
Texture Class	CLLO			
Org. Carbon Stock (t/ha)	21.5			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	26						
Potassium (ppm)	211						
Magnesium (ppm)	60						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	3238			
Sulphur (ppm)	8			
Sodium (ppm)	17			
Boron (ppm)	2.07			
Copper (ppm)	4.9			
Iron (ppm)	52			
Manganese (ppm)	70			
Molybdenum (ppm)	0.03			
Zinc (ppm)	4.3			

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

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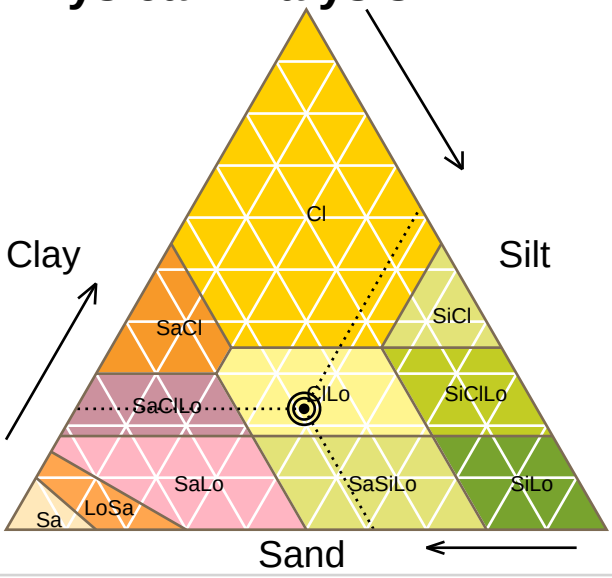
PAAG Professional Agricultural Analysis Group

Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	COUNTY COUNCIL 4 TOPSOIL <35CM	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021447/07		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	38.75
Silt	38.01
Clay	23.24
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

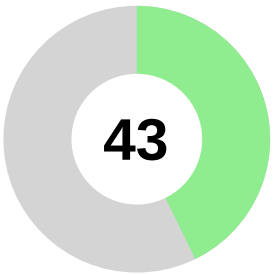
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	44	>70
Organic Carbon (%)	1.1	
Total Nitrogen (%)	0.101	
C:N Ratio	10.9	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	998
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	27
Soil Assessment Score	43/100

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

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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref COUNTY COUNCIL 4 TOPSOIL <35CM
Sample No G021447/07
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	8.1	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 (%)	1.9	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)	14.1	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)	44	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	10.9	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	CLLO		
Org. Carbon Stock (t/ha)	21.5	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	26	26	**(Index 3.0)**
Potassium (ppm)	211	241	**(Index 2.8)**
Magnesium (ppm)	60	100	**(Index 2.2)**
Calcium (ppm)	3238	1600	
Sulphur (ppm)	8	10	
Sodium (ppm)	17	90	
Boron (ppm)	2.07	2.10	

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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref COUNTY COUNCIL 4 TOPSOIL <35CM
Sample No G021447/07
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	4.9	2.1	
Iron (ppm)	52	50	
Manganese (ppm)	70	110	
Molybdenum (ppm)	0.03	0.20	
Zinc (ppm)	4.3	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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

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

Sample Ref COUNTY COUNCIL 4 TOPSOIL UPPER

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021447/08

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.2			
Org. Matter - DUMAS (%)	1.6			
C.E.C. (meq/100g)	13.2			
Soil Respiration (mg/kg)	21			
C:N Ratio	11.6			
Texture Class	SASILO			
Org. Carbon Stock (t/ha)	18.1			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	18						
Potassium (ppm)	90						
Magnesium (ppm)	52						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	3088			
Sulphur (ppm)	9			
Sodium (ppm)	15			
Boron (ppm)	1.69			
Copper (ppm)	3.4			
Iron (ppm)	35			
Manganese (ppm)	45			
Molybdenum (ppm)	0.03			
Zinc (ppm)	2.4			

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

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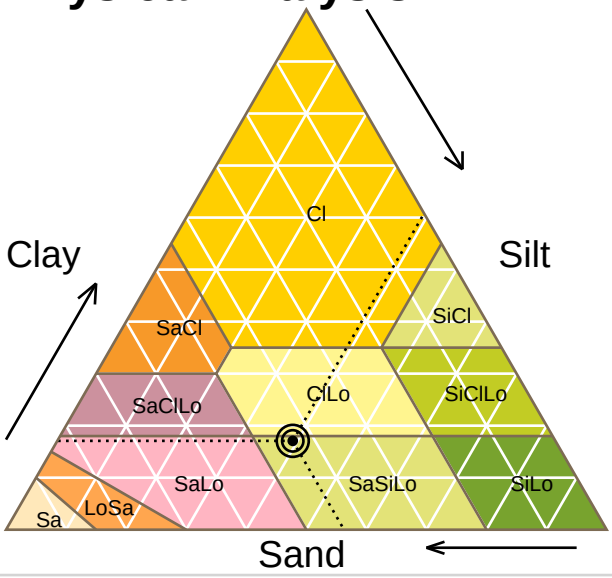
PAAG Professional Agricultural Analysis Group

Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	COUNTY COUNCIL 4 TOPSOIL UPPER	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021447/08		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	43.72
Silt	39.20
Clay	17.08
Soil Type	SaSiLo Sandy Silt 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

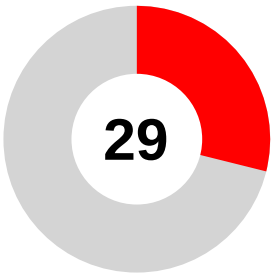
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	21	>70
Organic Carbon (%)	0.9	
Total Nitrogen (%)	0.080	
C:N Ratio	11.6	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	492
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	12
Soil Assessment Score	29/100

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 COUNTY COUNCIL 4 TOPSOIL UPPER
Sample No G021447/08
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

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)	13.2	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)	21	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	11.6	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	SASILO		
Org. Carbon Stock (t/ha)	18.1	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	18	26	**(Index 2.2)**
Potassium (ppm)	90	241	**(Index 1.5)**
Magnesium (ppm)	52	100	**(Index 2.0)**
Calcium (ppm)	3088	1600	
Sulphur (ppm)	9	10	
Sodium (ppm)	15	90	
Boron (ppm)	1.69	2.10	

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PAAG Professional Agricultural Analysis Group

Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref COUNTY COUNCIL 4 TOPSOIL UPPER
Sample No G021447/08
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	3.4	2.1	
Iron (ppm)	35	50	
Manganese (ppm)	45	110	
Molybdenum (ppm)	0.03	0.20	
Zinc (ppm)	2.4	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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

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

Sample Ref COUNTY COUNCIL 4 CHALK SUBSOIL

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021447/09

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.3			
Org. Matter - DUMAS (%)	1.2			
C.E.C. (meq/100g)	11.3			
Soil Respiration (mg/kg)	10			
C:N Ratio	13.7			
Texture Class	CLLO			
Org. Carbon Stock (t/ha)	13.6			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	11						
Potassium (ppm)	52						
Magnesium (ppm)	45						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	2684			
Sulphur (ppm)	8			
Sodium (ppm)	25			
Boron (ppm)	0.44			
Copper (ppm)	1.4			
Iron (ppm)	50			
Manganese (ppm)	53			
Molybdenum (ppm)	0.04			
Zinc (ppm)	1.4			

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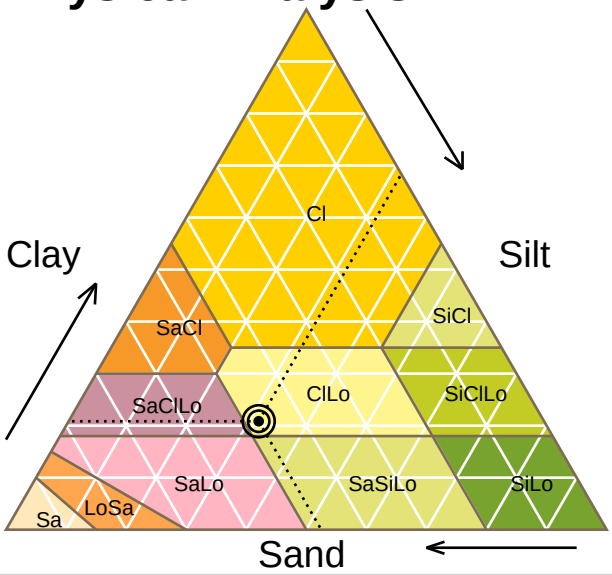
Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	COUNTY COUNCIL 4 CHALK SUBSOIL	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021447/09		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	47.51
Silt	31.64
Clay	20.85
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

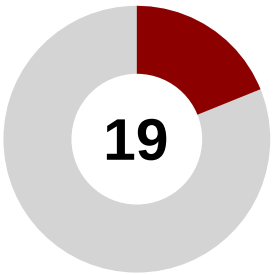
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	10	>70
Organic Carbon (%)	0.7	
Total Nitrogen (%)	0.051	
C:N Ratio	13.7	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	250
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	5
Soil Assessment Score	19/100

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 COUNTY COUNCIL 4 CHALK SUBSOIL
Sample No G021447/09
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	8.3	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 (%)	1.2	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)	10	70	Very 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	13.7	10.0	High. 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 12 - 25 indicates the potential for a slow rate of decompostion of organic residue and a high retention of applied organic materials.
Texture Class	CLLO		
Org. Carbon Stock (t/ha)	13.6	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	11	26	**(Index 1.2)**
Potassium (ppm)	52	241	**(Index 0.9)**
Magnesium (ppm)	45	100	**(Index 1.8)**
Calcium (ppm)	2684	1600	
Sulphur (ppm)	8	10	
Sodium (ppm)	25	90	
Boron (ppm)	0.44	2.10	

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PAAG Professional Agricultural Analysis Group

Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref COUNTY COUNCIL 4 CHALK SUBSOIL
Sample No G021447/09
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	1.4	2.1	
Iron (ppm)	50	50	
Manganese (ppm)	53	110	
Molybdenum (ppm)	0.04	0.20	
Zinc (ppm)	1.4	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER

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

Sample Ref RECTORY FARM TOP SOIL

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021448/01

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	7.7			
Org. Matter - DUMAS (%)	1.0			
C.E.C. (meq/100g)	19.5			
Soil Respiration (mg/kg)	100			
C:N Ratio	11.2			
Texture Class	SALO			
Org. Carbon Stock (t/ha)	11.3			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	48						
Potassium (ppm)	89						
Magnesium (ppm)	41						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	3751			
Sulphur (ppm)	1			
Sodium (ppm)	22			
Boron (ppm)	0.83			
Copper (ppm)	3.3			
Iron (ppm)	384			
Manganese (ppm)	108			
Molybdenum (ppm)	0.02			
Zinc (ppm)	3.8			

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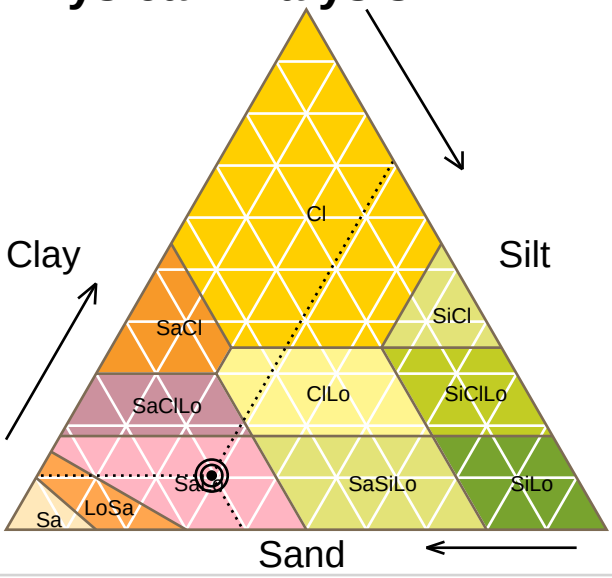
PAAG Professional Agricultural Analysis Group

Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	RECTORY FARM TOP SOIL	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021448/01		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	60.55
Silt	29.04
Clay	10.41
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

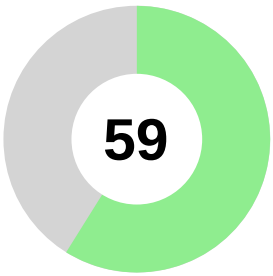
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	100	>70
Organic Carbon (%)	0.6	
Total Nitrogen (%)	0.052	
C:N Ratio	11.2	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	2230
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	60
Soil Assessment Score	59/100

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 RECTORY FARM TOP SOIL
Sample No G021448/01
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	7.7	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)	19.5	15.0	Cation Exchange Capacity indicates a soil with a good nutrient holding ability.
Soil Respiration (mg/kg)	100	70	Typical aerobic microbial activity and mineralisation potential. Soil management practices may further improve biological fertility.
C:N Ratio	11.2	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	SALO		
Org. Carbon Stock (t/ha)	11.3	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	48	26	**(Index 4.1)**
Potassium (ppm)	89	241	**(Index 1.5)**
Magnesium (ppm)	41	100	**(Index 1.6)**
Calcium (ppm)	3751	1600	
Sulphur (ppm)	1	10	
Sodium (ppm)	22	90	
Boron (ppm)	0.83	2.10	
Copper (ppm)	3.3	2.1	

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PAAG Professional Agricultural Analysis Group

Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref RECTORY FARM TOP SOIL
Sample No G021448/01
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Iron (ppm)	384	50	
Manganese (ppm)	108	105	
Molybdenum (ppm)	0.02	0.20	
Zinc (ppm)	3.8	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER

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

Sample Ref RECTORY FARM SUB SOIL

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021448/02

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	7.6			
Org. Matter - DUMAS (%)	0.5			
C.E.C. (meq/100g)	8.7			
Soil Respiration (mg/kg)	69			
C:N Ratio	9.1			
Texture Class	SALO			
Org. Carbon Stock (t/ha)	5.7			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	34						
Potassium (ppm)	46						
Magnesium (ppm)	54						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	1636			
Sulphur (ppm)	1			
Sodium (ppm)	25			
Boron (ppm)	0.78			
Copper (ppm)	2.8			
Iron (ppm)	320			
Manganese (ppm)	86			
Molybdenum (ppm)	0.04			
Zinc (ppm)	2.3			

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

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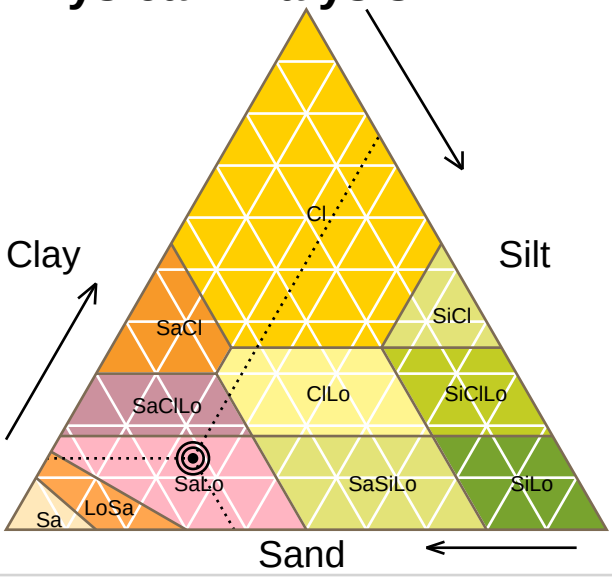
Tel: + 44 1759 305116 [redacted]

PAAG Professional Agricultural Analysis Group

Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	RECTORY FARM SUB SOIL	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021448/02		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	62.01
Silt	24.27
Clay	13.72
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

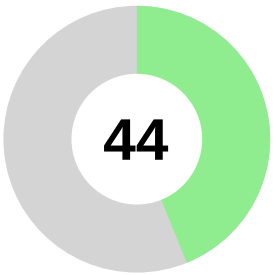
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	69	>70
Organic Carbon (%)	0.3	
Total Nitrogen (%)	0.032	
C:N Ratio	9.1	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	1548
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	46
Soil Assessment Score	44/100

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)

Customer DEMETER
Sample Ref RECTORY FARM SUB SOIL
Sample No G021448/02
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	7.6	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 (%)	0.5	3.0	Very 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)	8.7	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)	69	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	9.1	10.0	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. A ratio of 8 - 10 indicates the potential for a rapid decompostion of organic residue and a low retention of applied organic materials.
Texture Class	SALO		
Org. Carbon Stock (t/ha)	5.7	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	34	26	**(Index 3.4)**
Potassium (ppm)	46	241	**(Index 0.8)**
Magnesium (ppm)	54	100	**(Index 2.1)**
Calcium (ppm)	1636	1600	
Sulphur (ppm)	1	10	
Sodium (ppm)	25	90	
Boron (ppm)	0.78	2.10	

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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref RECTORY FARM SUB SOIL
Sample No G021448/02
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	2.8	2.1	
Iron (ppm)	320	50	
Manganese (ppm)	86	100	
Molybdenum (ppm)	0.04	0.20	
Zinc (ppm)	2.3	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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

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

Sample Ref ROYS FIELD TOPSOIL

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021448/03

Crop SUGAR BEET

Soil Characteristics	Result	Low	Normal	High
pH	8.1			
Org. Matter - DUMAS (%)	1.9			
C.E.C. (meq/100g)	13.6			
Soil Respiration (mg/kg)	38			
C:N Ratio	10.0			
Texture Class	CLLO			
Org. Carbon Stock (t/ha)	21.5			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	16						
Potassium (ppm)	203						
Magnesium (ppm)	56						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	3112			
Sulphur (ppm)	5			
Sodium (ppm)	34			
Boron (ppm)	2.49			
Copper (ppm)	5.3			
Iron (ppm)	98			
Manganese (ppm)	239			
Molybdenum (ppm)	0.04			
Zinc (ppm)	3.5			

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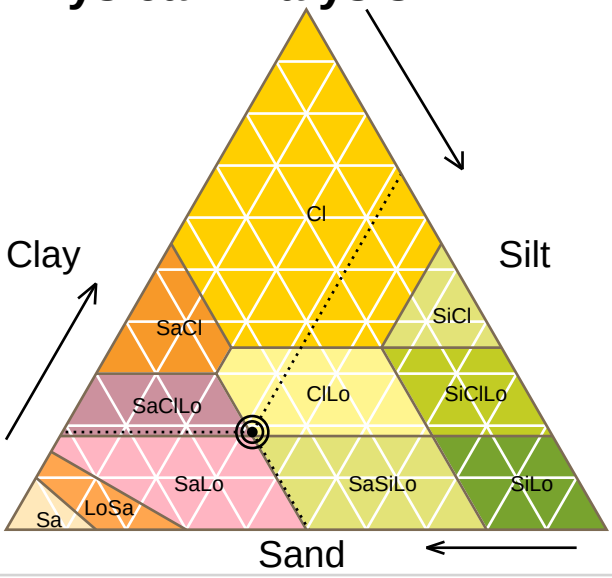
Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	ROYS FIELD TOPSOIL	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021448/03		
Crop	SUGAR BEET		

Physical Analysis



Analysis	Result (%)
Sand	49.61
Silt	31.62
Clay	18.77
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

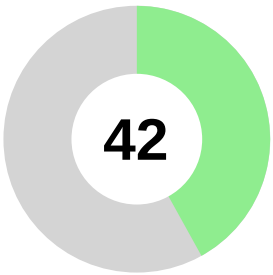
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	38	>70
Organic Carbon (%)	1.1	
Total Nitrogen (%)	0.110	
C:N Ratio	10.0	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	866
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	25
Soil Assessment Score	42/100

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 ROYS FIELD TOPSOIL
Sample No G021448/03
Crop SUGAR BEET

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	8.1	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 (%)	1.9	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)	13.6	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)	38	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	10.0	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)	21.5	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	16	16	**(Index 2.0)** 50 kg/ha P2O5 (40 units/acre). Maintenance.
Potassium (ppm)	203	121	**(Index 2.7)** 100 kg/ha K2O (80 units/acre).
Magnesium (ppm)	56	51	**(Index 2.1)** Adequate level.
Calcium (ppm)	3112	1600	Adequate level.
Sulphur (ppm)	5	10	Consider treatment
Sodium (ppm)	34	40	Sugar Beet responds to sodium. 190 kg/ha of agricultural salt is recommended.

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Analysis Results (SOIL)

Customer DEMETER
Sample Ref ROYS FIELD TOPSOIL
Sample No G021448/03
Crop SUGAR BEET

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Boron (ppm)	2.49	2.10	Adequate level.
Copper (ppm)	5.3	4.1	Adequate level.
Iron (ppm)	98	50	Adequate level.
Manganese (ppm)	239	110	Adequate level.
Molybdenum (ppm)	0.04	0.20	Low priority on this crop. Other crops may be affected.
Zinc (ppm)	3.5	4.1	Consider treatment

Additional Comments

The amount of phosphate and potash shown at target Index 2 are needed to replace the offtakes in a 60t/ha crop (with tops ploughed in) and maintain the soil at the target Index.
The phosphate and potash recommendations at target or lower indices can be adjusted if yields are likely to be larger or smaller than 60 t/ha by multiplying the difference in expected yield by the phosphate and potash content per tonne of yield. See RB209 for full details.
Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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

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

Sample Ref ROYS FIELD SUBSOIL

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021448/04

Crop SUGAR BEET

Soil Characteristics	Result	Low	Normal	High
pH	8.3			
Org. Matter - DUMAS (%)	1.3			
C.E.C. (meq/100g)	13.8			
Soil Respiration (mg/kg)	13			
C:N Ratio	11.1			
Texture Class	SALO			
Org. Carbon Stock (t/ha)	14.7			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	8						
Potassium (ppm)	73						
Magnesium (ppm)	53						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	3243			
Sulphur (ppm)	8			
Sodium (ppm)	26			
Boron (ppm)	1.05			
Copper (ppm)	2.7			
Iron (ppm)	26			
Manganese (ppm)	42			
Molybdenum (ppm)	0.04			
Zinc (ppm)	1.2			

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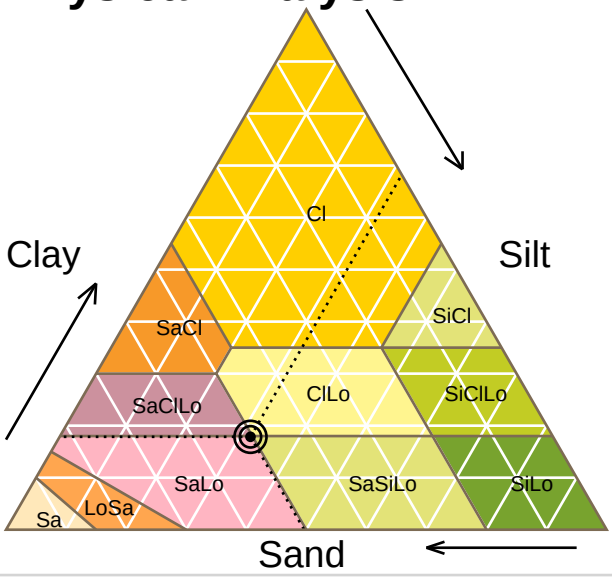
PAAG Professional Agricultural Analysis Group

Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	ROYS FIELD SUBSOIL	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021448/04		
Crop	SUGAR BEET		

Physical Analysis



Analysis	Result (%)
Sand	50.37
Silt	31.77
Clay	17.86
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

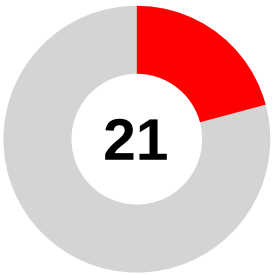
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	13	>70
Organic Carbon (%)	0.8	
Total Nitrogen (%)	0.068	
C:N Ratio	11.1	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	316
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	8
Soil Assessment Score	21/100

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 ROYS FIELD SUBSOIL
Sample No G021448/04
Crop SUGAR BEET

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	8.3	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 (%)	1.3	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)	13.8	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)	13	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	11.1	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	SALO		
Org. Carbon Stock (t/ha)	14.7	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	8	16	**(Index 0.8)** 110 kg/ha P2O5 (88 units/acre).
Potassium (ppm)	73	121	**(Index 1.2)** 130 kg/ha K2O (104 units/acre).
Magnesium (ppm)	53	51	**(Index 2.0)** Adequate level.
Calcium (ppm)	3243	1600	Adequate level.
Sulphur (ppm)	8	10	Consider treatment
Sodium (ppm)	26	40	Sugar Beet responds to sodium. 190 kg/ha of agricultural salt is recommended.

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Analysis Results (SOIL)

Customer DEMETER
Sample Ref ROYS FIELD SUBSOIL
Sample No G021448/04
Crop SUGAR BEET

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Boron (ppm)	1.05	2.10	PRIORITY FOR TREATMENT.
Copper (ppm)	2.7	4.1	PRIORITY FOR TREATMENT.
Iron (ppm)	26	50	Low priority on this crop. Other crops may be affected.
Manganese (ppm)	42	110	PRIORITY FOR TREATMENT.
Molybdenum (ppm)	0.04	0.20	Low priority on this crop. Other crops may be affected.
Zinc (ppm)	1.2	4.1	Consider treatment

Additional Comments

The amount of phosphate and potash shown at target Index 2 are needed to replace the offtakes in a 60t/ha crop (with tops ploughed in) and maintain the soil at the target Index.
The phosphate and potash recommendations at target or lower indices can be adjusted if yields are likely to be larger or smaller than 60 t/ha by multiplying the difference in expected yield by the phosphate and potash content per tonne of yield. See RB209 for full details.
The potash recommendations assume sodium is used at 200 kg/ha Na2O (375 kg/ha salt). Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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]

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PAAG Professional Agricultural Analysis Group

Analysis Results (SOIL)

Customer DEMETER

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

Sample Ref GARGETTS TOPSOIL

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021448/05

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.2			
Org. Matter - DUMAS (%)	1.1			
C.E.C. (meq/100g)	8.8			
Soil Respiration (mg/kg)	37			
C:N Ratio	11.0			
Texture Class	SALO			
Org. Carbon Stock (t/ha)	12.5			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	35						
Potassium (ppm)	79						
Magnesium (ppm)	33						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	2100			
Sulphur (ppm)	5			
Sodium (ppm)	10			
Boron (ppm)	0.98			
Copper (ppm)	3.6			
Iron (ppm)	42			
Manganese (ppm)	38			
Molybdenum (ppm)	0.04			
Zinc (ppm)	4.5			

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

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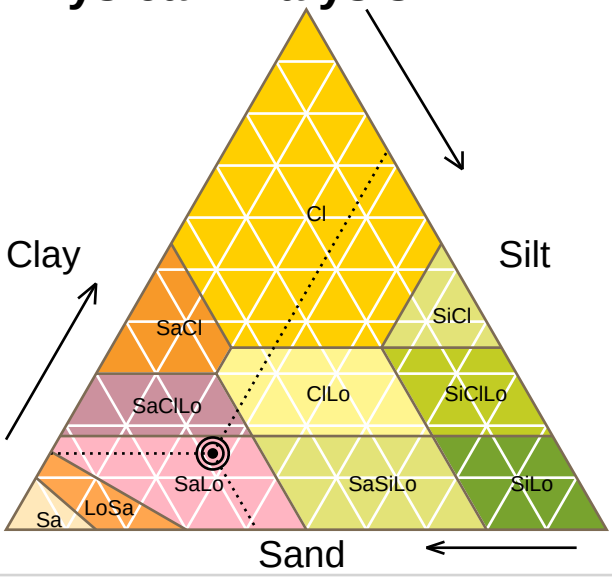
PAAG Professional Agricultural Analysis Group

Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	GARGETTS TOPSOIL	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021448/05		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	58.25
Silt	27.09
Clay	14.66
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

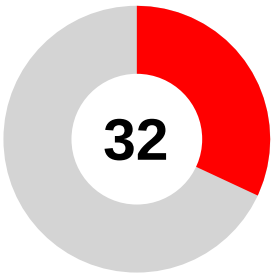
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	37	>70
Organic Carbon (%)	0.6	
Total Nitrogen (%)	0.058	
C:N Ratio	11.0	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	844
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	22
Soil Assessment Score	32/100

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 GARGETTS TOPSOIL
Sample No G021448/05
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

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 (%)	1.1	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)	8.8	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)	37	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	11.0	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	SALO		
Org. Carbon Stock (t/ha)	12.5	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	35	26	**(Index 3.5)**
Potassium (ppm)	79	241	**(Index 1.3)**
Magnesium (ppm)	33	100	**(Index 1.3)**
Calcium (ppm)	2100	1600	
Sulphur (ppm)	5	10	
Sodium (ppm)	10	90	
Boron (ppm)	0.98	2.10	

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Analysis Results (SOIL)

Customer DEMETER
Sample Ref GARGETTS TOPSOIL
Sample No G021448/05
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	3.6	2.1	
Iron (ppm)	42	50	
Manganese (ppm)	38	110	
Molybdenum (ppm)	0.04	0.20	
Zinc (ppm)	4.5	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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

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

Sample Ref GARGETTS SUBSOIL

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021448/06

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.3			
Org. Matter - DUMAS (%)	0.5			
C.E.C. (meq/100g)	6.9			
Soil Respiration (mg/kg)	15			
C:N Ratio	22.4			
Texture Class	SACLLO			
Org. Carbon Stock (t/ha)	5.7			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	12						
Potassium (ppm)	30						
Magnesium (ppm)	17						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	1706			
Sulphur (ppm)	5			
Sodium (ppm)	12			
Boron (ppm)	0.35			
Copper (ppm)	1.0			
Iron (ppm)	30			
Manganese (ppm)	23			
Molybdenum (ppm)	0.05			
Zinc (ppm)	1.4			

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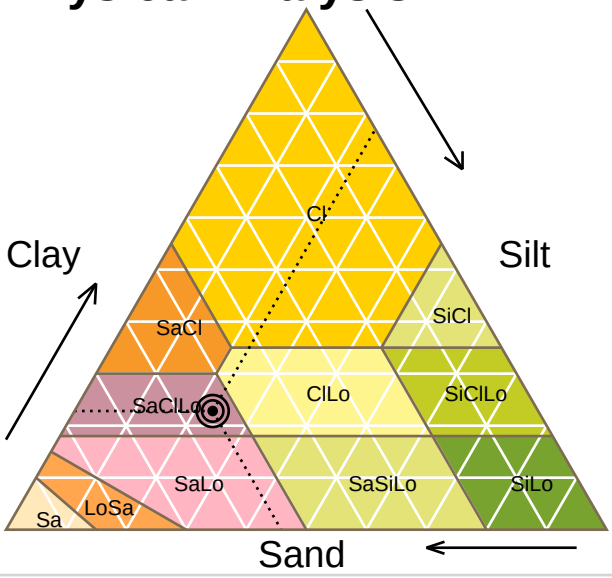
Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	GARGETTS SUBSOIL	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021448/06		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	54.18
Silt	23.00
Clay	22.82
Soil Type	SaClLo Sandy Clay 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

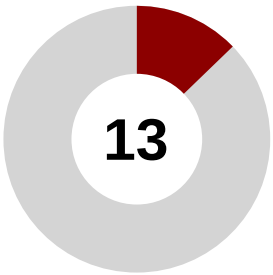
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	15	>70
Organic Carbon (%)	0.3	
Total Nitrogen (%)	0.013	
C:N Ratio	22.4	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	360
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	4
Soil Assessment Score	13/100

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

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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref GARGETTS SUBSOIL
Sample No G021448/06
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	8.3	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 (%)	0.5	3.0	Very 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)	6.9	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)	15	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	22.4	10.0	High. 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 12 - 25 indicates the potential for a slow rate of decompostion of organic residue and a high retention of applied organic materials.
Texture Class	SACLLO		
Org. Carbon Stock (t/ha)	5.7	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	12	26	**(Index 1.3)**
Potassium (ppm)	30	241	**(Index 0.5)**
Magnesium (ppm)	17	100	**(Index 0.7)**
Calcium (ppm)	1706	1600	
Sulphur (ppm)	5	10	
Sodium (ppm)	12	90	
Boron (ppm)	0.35	2.10	

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Analysis Results (SOIL)

Customer DEMETER
Sample Ref GARGETTS SUBSOIL
Sample No G021448/06
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	1.0	2.1	
Iron (ppm)	30	50	
Manganese (ppm)	23	110	
Molybdenum (ppm)	0.05	0.20	
Zinc (ppm)	1.4	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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 a [redacted]

Please Note

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Analysis Results (SOIL)

Customer DEMETER

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

Sample Ref HAVACRE TOP SOIL

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021448/07

Crop POTATOES

Soil Characteristics	Result	Low	Normal	High
pH	8.1			
Org. Matter - DUMAS (%)	2.2			
C.E.C. (meq/100g)	11.8			
Soil Respiration (mg/kg)	74			
C:N Ratio	9.2			
Texture Class	SASILO			
Org. Carbon Stock (t/ha)	24.9			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	23						
Potassium (ppm)	185						
Magnesium (ppm)	58						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	2703			
Sulphur (ppm)	9			
Sodium (ppm)	16			
Boron (ppm)	3.39			
Copper (ppm)	3.8			
Iron (ppm)	56			
Manganese (ppm)	86			
Molybdenum (ppm)	0.04			
Zinc (ppm)	6.5			

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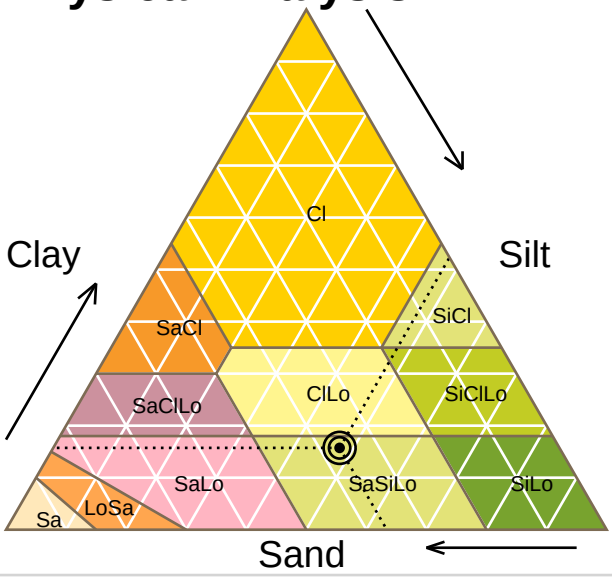
Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	HAVACRE TOP SOIL	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021448/07		
Crop	POTATOES		

Physical Analysis



Analysis	Result (%)
Sand	36.60
Silt	47.67
Clay	15.73
Soil Type	SaSiLo Sandy Silt 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

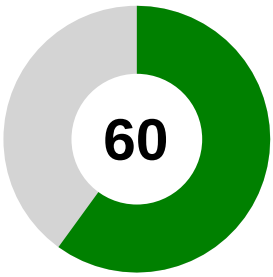
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	74	>70
Organic Carbon (%)	1.3	
Total Nitrogen (%)	0.139	
C:N Ratio	9.2	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	1658
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	50
Soil Assessment Score	60/100

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

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

Analysis Results (SOIL)

Customer DEMETER
Sample Ref HAVACRE TOP SOIL
Sample No G021448/07
Crop POTATOES

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	8.1	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 (%)	2.2	3.0	Slightly 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)	11.8	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)	74	70	Typical aerobic microbial activity and mineralisation potential. Soil management practices may further improve biological fertility.
C:N Ratio	9.2	10.0	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. A ratio of 8 - 10 indicates the potential for a rapid decompostion of organic residue and a low retention of applied organic materials.
Texture Class	SASILO		
Org. Carbon Stock (t/ha)	24.9	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	23	16	**(Index 2.7)** 170 kg/ha P2O5 (136 units/acre).
Potassium (ppm)	185	121	**(Index 2.5)** 300 kg/ha K2O (240 units/acre).
Magnesium (ppm)	58	51	**(Index 2.1)** 40 kg/ha MgO (32 units/acre).
Calcium (ppm)	2703	2000	Adequate level.
Sulphur (ppm)	9	10	CONSIDER TREATMENT.
Sodium (ppm)	16	90	Not a problem for this crop.
Boron (ppm)	3.39	1.60	Adequate level.

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Analysis Results (SOIL)

Customer DEMETER
Sample Ref HAVACRE TOP SOIL
Sample No G021448/07
Crop POTATOES

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	3.8	2.1	Adequate level.
Iron (ppm)	56	200	Low priority on this crop. Other crops may be affected.
Manganese (ppm)	86	110	PRIORITY FOR TREATMENT.
Molybdenum (ppm)	0.04	0.20	Low priority on this crop. Other crops may be affected.
Zinc (ppm)	6.5	4.1	Adequate level.

Additional Comments

Soil applied P and K recommendations are taken from AHDB Nutrient management Guide (RB209) for Maincrop yielding 50 t/ha. The potash recommendations at target or lower indices can be can be adjusted when yield is likely to be larger or smaller than 50 t/ha by multiplying the difference in expected yield by the potash content per tonne yield (see 8th edition RB209 for more detail). Ensure the potash offtake is balanced by application of potash fertiliser on Index 2 soils, and check that the soil is maintained at Index 2 for both phosphate and potash by soil sampling every 3-5 years. The amounts of phosphate and potash shown at Index 2 are those recommended to achieve a total yield of 50 t/ha. The phosphate recommendations are intended to achieve optimum yield and should not be adjusted even if larger or smaller yields than 50 t/ha are expected. Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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]

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Analysis Results (SOIL)

Customer DEMETER

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

Sample Ref HAVACRE SUB SOIL

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021448/08

Crop POTATOES

Soil Characteristics	Result	Low	Normal	High
pH	8.3			
Org. Matter - DUMAS (%)	1.0			
C.E.C. (meq/100g)	9.9			
Soil Respiration (mg/kg)	33			
C:N Ratio	12.4			
Texture Class	SALO			
Org. Carbon Stock (t/ha)	11.3			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	6						
Potassium (ppm)	37						
Magnesium (ppm)	28						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	2389			
Sulphur (ppm)	12			
Sodium (ppm)	20			
Boron (ppm)	0.53			
Copper (ppm)	1.2			
Iron (ppm)	21			
Manganese (ppm)	18			
Molybdenum (ppm)	0.02			
Zinc (ppm)	1.4			

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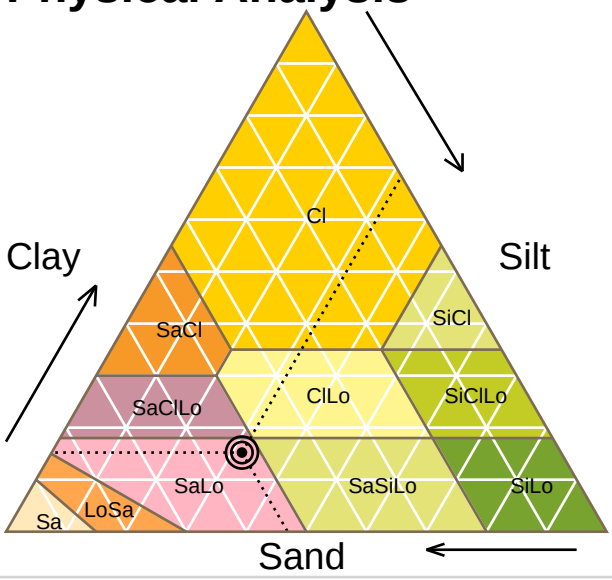
Professional Agricultural Analysis Group

Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	HAVACRE SUB SOIL	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021448/08		
Crop	POTATOES		

Physical Analysis



Analysis	Result (%)
Sand	53.11
Silt	31.67
Clay	15.22
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

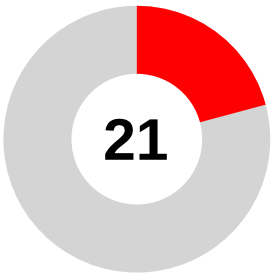
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	33	>70
Organic Carbon (%)	0.6	
Total Nitrogen (%)	0.047	
C:N Ratio	12.4	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	756
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	18
Soil Assessment Score	21/100

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.

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Fungi thrive
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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 HAVACRE SUB SOIL
Sample No G021448/08
Crop POTATOES

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	8.3	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)	9.9	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)	33	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	12.4	10.0	High. 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 12 - 25 indicates the potential for a slow rate of decompostion of organic residue and a high retention of applied organic materials.
Texture Class	SALO		
Org. Carbon Stock (t/ha)	11.3	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	6	16	**(Index 0.6)** 250 kg/ha P2O5 (200) units/acre).
Potassium (ppm)	37	121	**(Index 0.6)** 360 kg/ha K2O (288 units/acre).
Magnesium (ppm)	28	51	**(Index 1.1)** 80 kg/ha MgO (64 units/acre).
Calcium (ppm)	2389	2000	Adequate level.
Sulphur (ppm)	12	10	Adequate level.
Sodium (ppm)	20	90	Not a problem for this crop.
Boron (ppm)	0.53	1.60	CONSIDER TREATMENT.

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PAAG Professional Agricultural Analysis Group

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Sample Ref HAVACRE SUB SOIL
Sample No G021448/08
Crop POTATOES

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	1.2	2.1	Low priority on this crop. Other crops may be affected.
Iron (ppm)	21	200	Low priority on this crop. Other crops may be affected.
Manganese (ppm)	18	110	PRIORITY FOR TREATMENT.
Molybdenum (ppm)	0.02	0.20	Low priority on this crop. Other crops may be affected.
Zinc (ppm)	1.4	4.1	Low priority on this crop. Other crops may be affected.

Additional Comments

Soil applied P and K recommendations are taken from AHDB Nutrient management Guide (RB209) for Maincrop yielding 50 t/ha. The potash recommendations at target or lower indices can be can be adjusted when yield is likely to be larger or smaller than 50 t/ha by multiplying the difference in expected yield by the potash content per tonne yield (see 8th edition RB209 for more detail). Ensure the potash offtake is balanced by application of potash fertiliser on Index 2 soils, and check that the soil is maintained at Index 2 for both phosphate and potash by soil sampling every 3-5 years. The amounts of phosphate and potash shown at Index 2 are those recommended to achieve a total yield of 50 t/ha. The phosphate recommendations are intended to achieve optimum yield and should not be adjusted even if larger or smaller yields than 50 t/ha are expected. Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER

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

Sample Ref 2 T25 TOPSOIL

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021449/01

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.1			
Org. Matter - DUMAS (%)	1.7			
C.E.C. (meq/100g)	10.7			
Soil Respiration (mg/kg)	53			
C:N Ratio	11.1			
Texture Class	CLLO			
Org. Carbon Stock (t/ha)	19.3			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	53						
Potassium (ppm)	173						
Magnesium (ppm)	56						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	2457			
Sulphur (ppm)	6			
Sodium (ppm)	12			
Boron (ppm)	1.54			
Copper (ppm)	4.4			
Iron (ppm)	164			
Manganese (ppm)	72			
Molybdenum (ppm)	0.04			
Zinc (ppm)	6.4			

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

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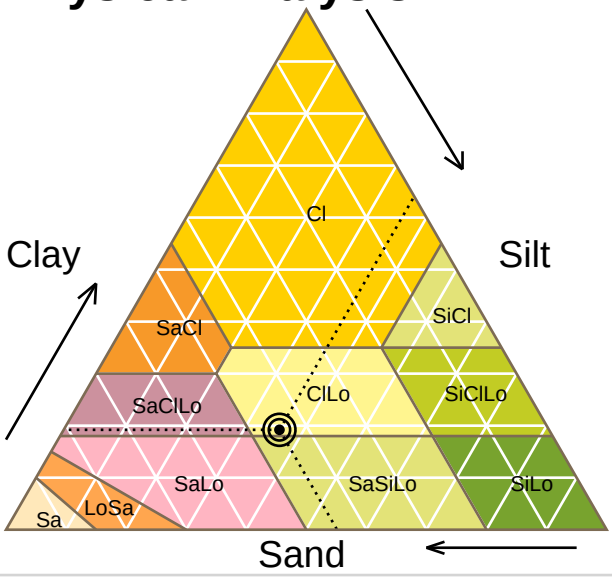
PAAG Professional Agricultural Analysis Group

Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	2 T25 TOPSOIL	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021449/01		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	44.88
Silt	35.92
Clay	19.20
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

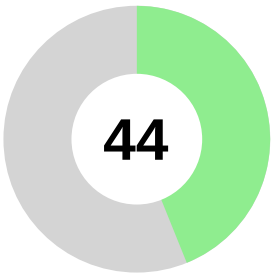
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	53	>70
Organic Carbon (%)	1.0	
Total Nitrogen (%)	0.089	
C:N Ratio	11.1	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	1196
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	32
Soil Assessment Score	44/100

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)

Customer DEMETER
Sample Ref 2 T25 TOPSOIL
Sample No G021449/01
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	8.1	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 (%)	1.7	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)	10.7	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)	53	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	11.1	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)	19.3	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	53	26	**(Index 4.3)**
Potassium (ppm)	173	241	**(Index 2.4)**
Magnesium (ppm)	56	100	**(Index 2.1)**
Calcium (ppm)	2457	1600	
Sulphur (ppm)	6	10	
Sodium (ppm)	12	90	
Boron (ppm)	1.54	2.10	

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Analysis Results (SOIL)

Customer DEMETER
Sample Ref 2 T25 TOPSOIL
Sample No G021449/01
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	4.4	2.1	
Iron (ppm)	164	50	
Manganese (ppm)	72	110	
Molybdenum (ppm)	0.04	0.20	
Zinc (ppm)	6.4	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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].

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Analysis Results (SOIL)

Customer DEMETER

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

Sample Ref 2 T25 SUBSOIL

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021449/02

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.3			
Org. Matter - DUMAS (%)	1.2			
C.E.C. (meq/100g)	11.7			
Soil Respiration (mg/kg)	15			
C:N Ratio	10.0			
Texture Class	SALO			
Org. Carbon Stock (t/ha)	13.6			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	11						
Potassium (ppm)	298						
Magnesium (ppm)	55						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	2626			
Sulphur (ppm)	4			
Sodium (ppm)	17			
Boron (ppm)	2.06			
Copper (ppm)	3.2			
Iron (ppm)	54			
Manganese (ppm)	105			
Molybdenum (ppm)	0.04			
Zinc (ppm)	1.7			

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

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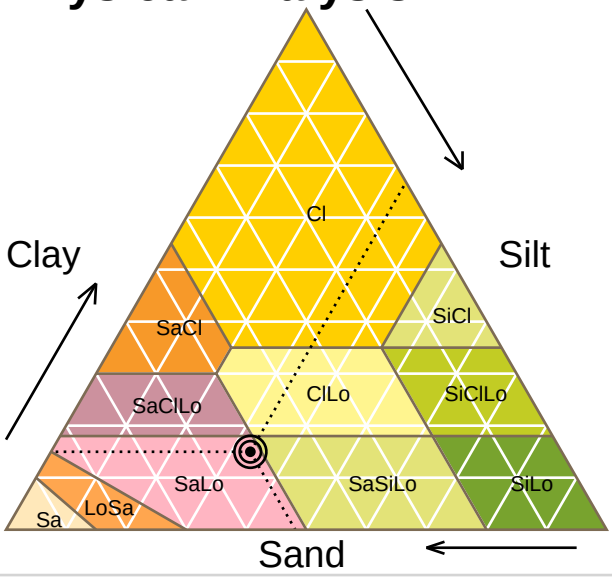
Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	2 T25 SUBSOIL	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021449/02		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	51.83
Silt	33.19
Clay	14.98
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

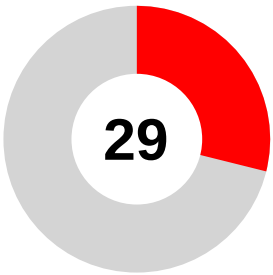
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	15	>70
Organic Carbon (%)	0.7	
Total Nitrogen (%)	0.070	
C:N Ratio	10.0	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	360
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	10
Soil Assessment Score	29/100

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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Analysis Results (SOIL)

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Sample No G021449/02
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	8.3	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 (%)	1.2	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)	11.7	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)	15	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	10.0	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	SALO		
Org. Carbon Stock (t/ha)	13.6	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	11	26	**(Index 1.2)**
Potassium (ppm)	298	241	**(Index 3.4)**
Magnesium (ppm)	55	100	**(Index 2.1)**
Calcium (ppm)	2626	1600	
Sulphur (ppm)	4	10	
Sodium (ppm)	17	90	
Boron (ppm)	2.06	2.10	

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Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref 2 T25 SUBSOIL
Sample No G021449/02
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	3.2	2.1	
Iron (ppm)	54	50	
Manganese (ppm)	105	110	
Molybdenum (ppm)	0.04	0.20	
Zinc (ppm)	1.7	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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.
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Analysis Results (SOIL)

Customer DEMETER

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

Sample Ref 1 T25 TOPSOIL

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021449/03

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.1			
Org. Matter - DUMAS (%)	1.7			
C.E.C. (meq/100g)	9.7			
Soil Respiration (mg/kg)	18			
C:N Ratio	10.9			
Texture Class	SASILO			
Org. Carbon Stock (t/ha)	19.3			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	20						
Potassium (ppm)	117						
Magnesium (ppm)	52						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	2272			
Sulphur (ppm)	11			
Sodium (ppm)	8			
Boron (ppm)	1.63			
Copper (ppm)	3.6			
Iron (ppm)	62			
Manganese (ppm)	76			
Molybdenum (ppm)	0.06			
Zinc (ppm)	4.6			

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

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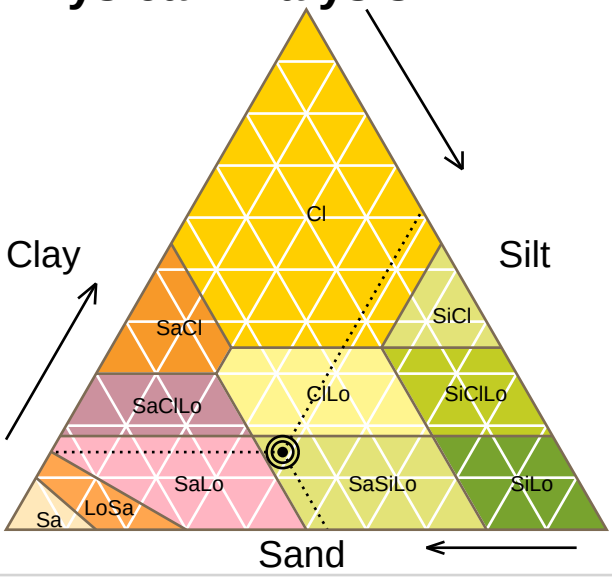
PAAG Professional Agricultural Analysis Group

Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	1 T25 TOPSOIL	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021449/03		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	46.49
Silt	38.59
Clay	14.92
Soil Type	SaSiLo Sandy Silt 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

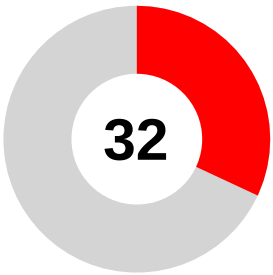
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	18	>70
Organic Carbon (%)	1.0	
Total Nitrogen (%)	0.091	
C:N Ratio	10.9	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	426
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	11
Soil Assessment Score	32/100

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
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Nutrient cycling drops

Neutral
Desirable fungal and bacterial activity
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Lancrop Laboratories

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Sample Ref 1 T25 TOPSOIL
Sample No G021449/03
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	8.1	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 (%)	1.7	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)	18	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	10.9	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	SASILO		
Org. Carbon Stock (t/ha)	19.3	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	20	26	**(Index 2.4)**
Potassium (ppm)	117	241	**(Index 1.9)**
Magnesium (ppm)	52	100	**(Index 2.0)**
Calcium (ppm)	2272	1600	
Sulphur (ppm)	11	10	
Sodium (ppm)	8	90	
Boron (ppm)	1.63	2.10	

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PAAG Professional Agricultural Analysis Group

Lancrop Laboratories

Analysis Results (SOIL)

Customer DEMETER
Sample Ref 1 T25 TOPSOIL
Sample No G021449/03
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
Copper (ppm)	3.6	2.1	
Iron (ppm)	62	50	
Manganese (ppm)	76	110	
Molybdenum (ppm)	0.06	0.20	
Zinc (ppm)	4.6	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) 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

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

Sample Ref 1 T25 SUBSOIL

Date Received 13/09/2022 (Date Issued: 03/10/2022)

Sample No G021449/04

Crop NON STATED

Soil Characteristics	Result	Low	Normal	High
pH	8.3			
Org. Matter - DUMAS (%)	0.4			
C.E.C. (meq/100g)	7.0			
Soil Respiration (mg/kg)	12			
C:N Ratio	29.1			
Texture Class	SALO			
Org. Carbon Stock (t/ha)	4.5			

Major Nutrients	Result	0	1	2-	2+	3	4+
Phosphorus (ppm)	4						
Potassium (ppm)	24						
Magnesium (ppm)	18						

Secondary and Micro Nutrients	Result	Deficient	Maintenance	High
Calcium (ppm)	1712			
Sulphur (ppm)	5			
Sodium (ppm)	13			
Boron (ppm)	0.35			
Copper (ppm)	0.9			
Iron (ppm)	42			
Manganese (ppm)	36			
Molybdenum (ppm)	0.04			
Zinc (ppm)	1.5			

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

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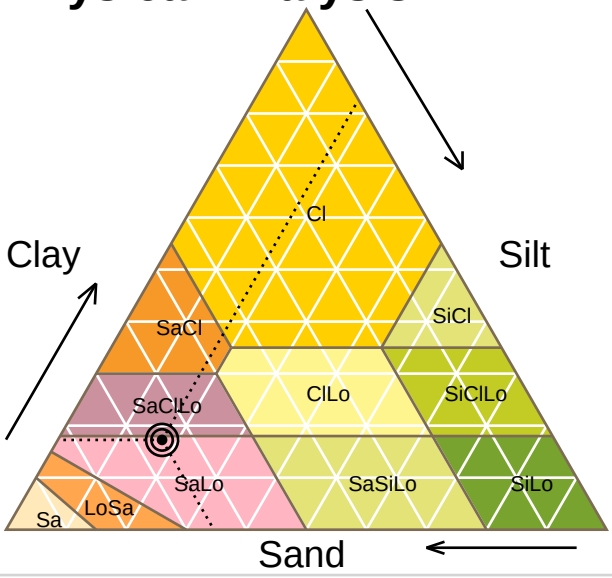
PAAG Professional Agricultural Analysis Group

Analysis Results (SOIL)

Customer	DEMETER	**Distributor**	DEMETER TECHNOLOGY
Sample Ref	1 T25 SUBSOIL	**Date Received**	13/09/2022 (Date Issued: 03/10/2022)
Sample No	G021449/04		
Crop	NON STATED		

Physical Analysis



Analysis	Result (%)
Sand	65.39
Silt	17.35
Clay	17.26
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

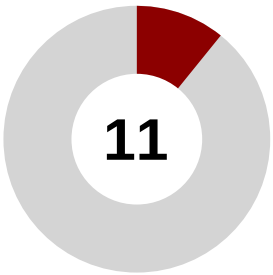
Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	12	>70
Organic Carbon (%)	0.2	
Total Nitrogen (%)	0.008	
C:N Ratio	29.1	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	294
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	3
Soil Assessment Score	11/100

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 1 T25 SUBSOIL
Sample No G021449/04
Crop NON STATED

Distributor DEMETER TECHNOLOGY
Date Received 13/09/2022 (Date Issued: 03/10/2022)

Analysis	Result	Guideline	Comments
pH	8.3	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 (%)	0.4	3.0	Very 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)	7.0	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)	12	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	29.1	10.0	Very high. 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. Ratios greater than 25 suggest organic matter is not decomposing.
Texture Class	SALO		
Org. Carbon Stock (t/ha)	4.5	34.0	The calculated level of organic carbon (active + humus) within one hectare when soil bulk density is either assumed (1.3g/cm3) or has been overwritten with a disturbed soil measured value (if SCA Extra has been requested) and soil depth is 15cm. Please see footnotes for calculation if you wish to adapt. Multiply the OC stock value by the field area (hectares) to indicate level of carbon stored within the field.
Phosphorus (ppm)	4	26	**(Index 0.4)**
Potassium (ppm)	24	241	**(Index 0.4)**
Magnesium (ppm)	18	100	**(Index 0.7)**
Calcium (ppm)	1712	1600	
Sulphur (ppm)	5	10	
Sodium (ppm)	13	90	
Boron (ppm)	0.35	2.10	

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Analysis	Result	Guideline	Comments
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Iron (ppm)	42	50	
Manganese (ppm)	36	110	
Molybdenum (ppm)	0.04	0.20	
Zinc (ppm)	1.5	4.1	

Additional Comments

Carbon Stock (t/ha) has been calculated with assumed bulk density of 1.3 g/cm3) and sampling depth of 15 cm.
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