

# ANALYTICAL REPORT

**REPORT CODE** AR-18-NU-060083-01

**REPORT DATE** 20/08/2018

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**Sample Name** Orotere

**Order Code:** EUNZAU-00109286

**Soil Type** Sedimentary

**Sample Code:** 816-2018-00185305

**Land Use** Sheep and Beef Pastoral

**Sampling Date:** 10/08/2018




**Depth (mm)** 75

**Reception Date:** 15/08/2018


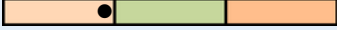

**Property Name** Orotere

**Analysis ending date:** 20/08/2018

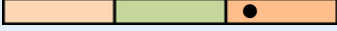
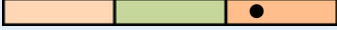


**SOIL TEST RESULTS**

	Units	Results	Soil Range	Soil Fertility Desired
NU015 pH	pH	6.9	5.8~6	
NU028 Anion Storage Capacity	%	53	40~80	
◆ NUD09 Effective Cation Exchange Capacity	cmol+/kg	36	12~25	
◆ NU388 Volume Weight	g/ml	0.79		





**ANIONS**

NU252 Olsen Phosphorus	mg/l	11	20~30	
NU342 Sulfate Sulfur	mg/kg	9	10~12	
NU262 Extractable Organic Sulfur (EOS)	mg/kg	7	15~20	

**CATIONS**

NU057 Calcium MAF QT	MAF QT	31	4~10	
◆ NUD04 Exchangeable Calcium	cmol+/kg	31.0		
NU189 Magnesium MAF QT	MAF QT	37	8~10	
◆ NUD05 Exchangeable Magnesium	cmol+/kg	2.03		
NU280 Potassium MAF QT	MAF QT	18	5~8	
◆ NUD06 Exchangeable Potassium	cmol+/kg	1.19		
NU326 Sodium MAF QT	MAF QT	5	5~20	
◆ NUD07 Exchangeable Sodium	cmol+/kg	0.12		

**BASE SATURATION**

◆ NU051 Calcium Base Saturation	%	85	60~75	
◆ NU217 Magnesium Base Saturation	%	5.6	6~15	
◆ NU171 Potassium Base Saturation	%	3.3	2~5	
◆ NU234 Sodium Base Saturation	%	0.3	1~2	

**CONCLUSION**

Desired plot ranges refer to field calibrated tests: pH, Olsen P, QTCa, QTMg, QTK, QTNa, Sulfate S, Extractable Organic S & Total S. Biological optimums are defined as 97% of max pasture production across all relevant field trials. All other desired ranges are provided as an indication of qualitative low, medium or high values based on reference data available, these "text book" values may not reflect local soils, climate, or terrain and should therefore be used with caution.

Anion Storage Capacity is an inherent property of the soil, a plot is only provided to indicate if the soil is classified as low, medium, or high; rather than indicating an actual desired value. Typical values for different soil types: Volcanic soils >80%, pumice 50-70%, sedimentary 30-50%, most peats, podzols and fine textured soils are usually less than 20%. To reduce possible leaching losses of P and S fertilisers, it is advisable to apply slow release P and S fertilisers when the soil ASC < 40%.

MAF Mg levels of 8-10 are adequate for pasture growth. MAF Mg levels of less than 25 may limit animal Mg supply and cause metabolic disorders during calving/lambing. For animal nutrition MAF Mg levels of 25-30 will generally provide plant Mg concentrations of 0.22% or higher.

Desired plots refer to ranges that are required to achieve near-maximum pasture production, economically these ranges may only apply to highly stocked, finishing farms (15 - 20 SU/ha) with favourable soils, climate and terrain. Sheep and beef farms are typically stocked at 8 - 10 SU/ha, in these cases a farm could possibly get away with lowered economic targets; for example Hills Olsen P of 12, Flats Olsen P of 20, MAF QT K 4 - 5 and sulphate-S 6 - 8. Farms stocked at 10 - 15 SU/ha could possibly have economic target soil test ranges between the near maximum and lower stocking range.

IANZ accreditation does not apply to comments or graphical representations.

## LIST OF METHODS

NU015	<b>pH:</b> 1:2.1 V/V Water Slurry: Electrode determination	NU028	<b>Anion Storage Capacity:</b> Potassium diHydrogen Phosphate Buffer
NU051	<b>Calcium Base Saturation:</b> Calculated Value	NU057	<b>Calcium MAF QT:</b> NH4OAC pH7 Extraction: ICP_OES determination
NU171	<b>Potassium Base Saturation:</b> Calculated Value	NU189	<b>Magnesium MAF QT:</b> NH4OAC pH7 Extraction: ICP_OES determination
NU217	<b>Magnesium Base Saturation:</b> Calculated Value	NU234	<b>Sodium Base Saturation:</b> Calculated Value
NU252	<b>Olsen Phosphorus:</b> Olsen Extraction: Colorimetry	NU262	<b>Extractable Organic Sulfur (EOS):</b> Calculation: Total phosphate extractable S less sulfate S
NU280	<b>Potassium MAF QT:</b> NH4OAC pH7 Extraction: ICP_OES determination	NU326	<b>Sodium MAF QT:</b> NH4OAC pH7 Extraction: ICP_OES determination
NU342	<b>Sulfate Sulfur:</b> Calculation. Phosphate Extraction: Ion Chromatography determination. Adjusted for Weight Volume	NU388	<b>Volume Weight:</b> Volume weight of air-dried & sieved soil
NUD04	<b>Exchangeable Calcium:</b> NH4OAC pH7 Extraction: ICP_OES determination	NUD05	<b>Exchangeable Magnesium:</b> NH4OAC pH7 Extraction: ICP_OES determination
NUD06	<b>Exchangeable Potassium:</b> NH4OAC pH7 Extraction: ICP_OES determination	NUD07	<b>Exchangeable Sodium:</b> NH4OAC pH7 Extraction: ICP_OES determination
NUD09	<b>Effective Cation Exchange Capacity:</b> Calculated by summation (ECEC field pH)		

Signature



**Brent Miller** Team Leader Agri Testing

### EXPLANATORY NOTE

- ◆ test is not accredited
- test is subcontracted within Eurofins group and is accredited
- test is subcontracted within Eurofins group and is not accredited
- test is subcontracted outside Eurofins group and is accredited
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N/A means Not applicable

**Not Detected** means not detected at or above the Limit of Quantification (LOQ) Eurofins General Terms and Conditions apply.

This document can only be reproduced in full; it only concerns the submitted sample. Results have been obtained and reported in accordance with our general sales conditions available on request.

The tests are identified by a five-digit code, their description is available on request.

END OF REPORT