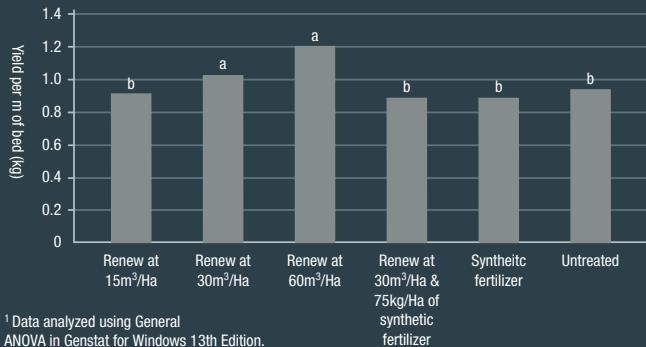


# Renew Biological Fertilizer in spinach in 2009

Small randomized complete block experiment in the Coal River Valley, Tasmania. Experiment completed by Houston's employees. Application of Renew biological fertilizer lead to:

- ✓ Improved nutrition
- ✓ Increased yield while maintaining quality

Mean yield spinach at harvest in January 2009 (Isd - 0.19<sup>1</sup>)



<sup>1</sup> Data analyzed using General ANOVA in Genstat for Windows 13th Edition.

Shelf life analysis following harvest

Treatment	Shelf life (days)
Renew at 30m <sup>3</sup> /Ha	20
Renew at 60m <sup>3</sup> /Ha	20
Synthetic fertilizer (200kg/Ha NK)	21
Untreated	21

Soil analysis at harvest

Measurement	Renew at 60m <sup>3</sup> /Ha	Synthetic fertilizer	Untreated
Moisture (%)	11.4	10.4	9.9
Soil bulk density (g/cm <sup>3</sup> )	0.94	0.98	1.01
Nitrate (mg/kg)	33.3	49.4	21.3
Phosphorus (mg/kg)	60.5	40.3	40.2
Potassium (mg/kg)	373.4	230.2	184.6
Calcium (mg/kg)	1288	1206	1058
Magnesium (mg/kg)	626.4	651.6	533.8
Zinc (mg/kg)	2.27	1.64	1.53
Boron (mg/kg)	1.37	1.36	1.17
Sulphur (mg/kg)	56.9	68.5	53.4
Iron (mg/kg)	317.7	331.2	345.9
Manganese (mg/kg)	5.68	6.91	5.04
Sodium (mg/kg)	223.5	192.3	162.2
Aluminium (mg/kg)	494.4	607.7	521.4
Cation Exchange Capacity (meq/100g)	13.5	12.9	11.6
Calcium (%)	47.6	46.9	45.6
Magnesium (%)	38.3	41.9	38.1
Potassium (%)	7.00	4.60	4.10
Sodium (%)	7.20	6.50	6.10
Total acidity (Al+H)+Other (%)	0.00	0.00	0.00
Base saturation (%)	100	100	93.9

Sap analysis at harvest

Measurement	Renew at 60m <sup>3</sup> /Ha	Synthetic fertilizer	Untreated
Nitrate (mg/kg)	4000	4020	3515
Phosphate (mg/kg)	252	193	175
Potassium (mg/kg)	7102	6976	7100
Calcium (mg/kg)	47	48	45
Magnesium (mg/kg)	310	393	408
Zinc (mg/kg)	7.44	8.43	8.32
Boron (mg/kg)	1.1	1.25	1.21
Sulphate (mg/kg)	153	161	151
Copper (mg/kg)	3.04	3.22	3.27
Iron (mg/kg)	5.37	7.62	6.24
Manganese (mg/kg)	3.51	5.01	4.66
Sodium (mg/kg)	1259	1269	1406
Molybdenum (mg/kg)	0.03	0.02	0.03
Brix (o)	4.3	4.6	3.6



**Biological Fertilizer**

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