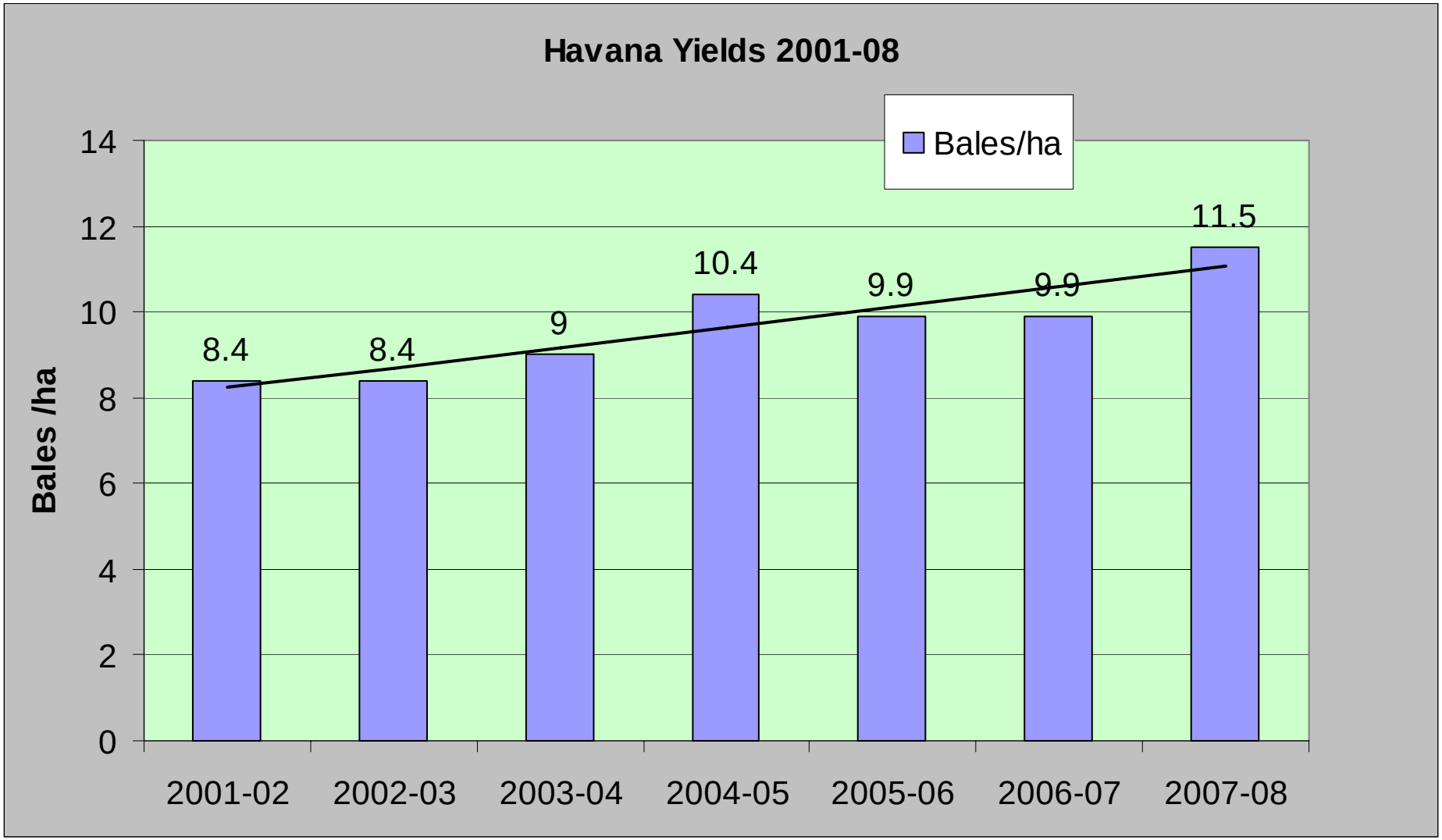
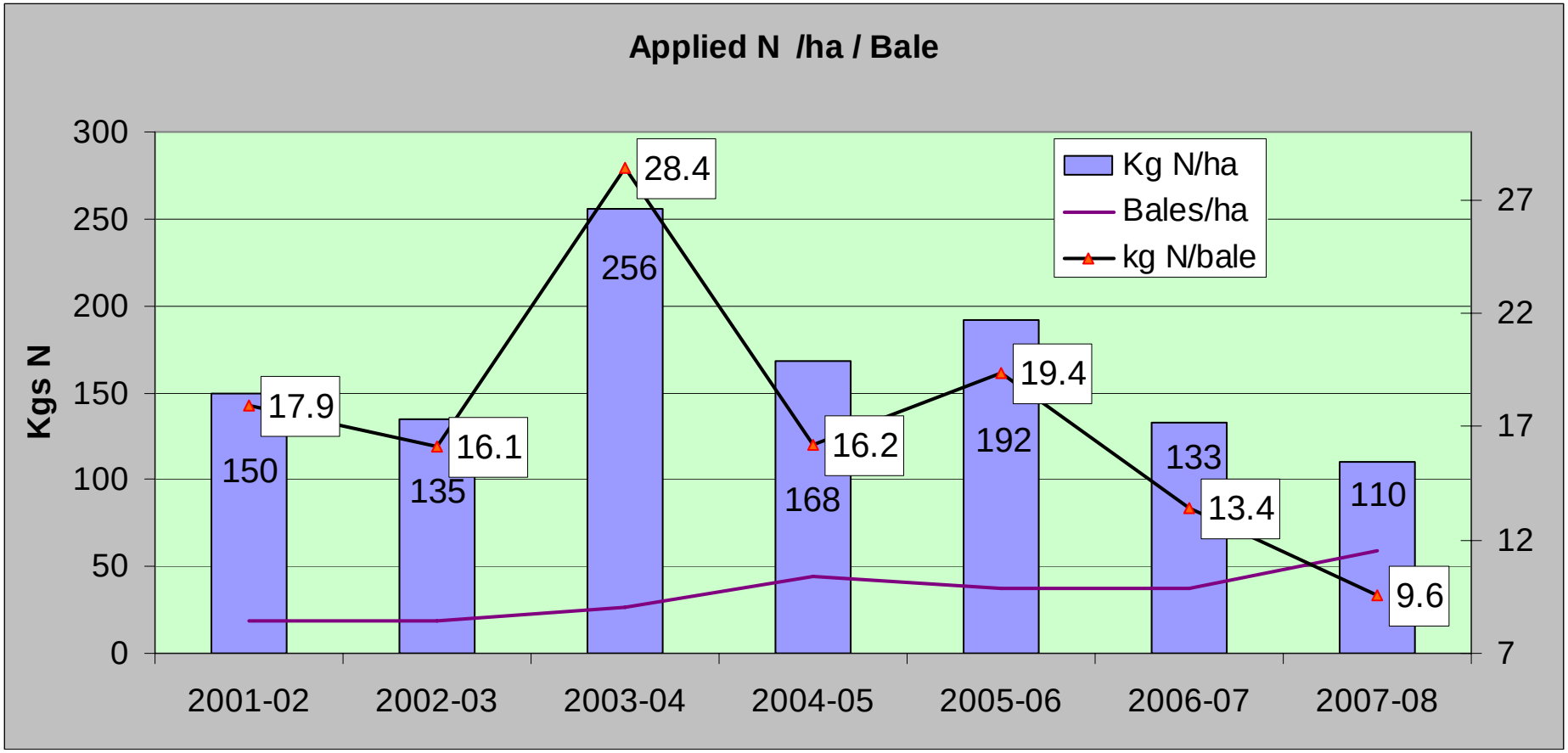
Havana Farming
Our experience

What we have done

- Field average: 7.4 bales/ha.
- In 1999 we decided to put this field into lucerne.
- In 2005 we planted Sicot 71BRR
- It produced 11.8 bales a ha.
- A good result. This was the field that was ultimately responsible for our nomination for the Grower of the year Awards.

- 4 years is a long time to leave a field out of production so in 2001 we committed to a vetch rotation
- Most fields have had 3 Vetch crops
- The bio mass was measure at 5 Ton per ha of dry matter for the 1st crop
- Equivalent to 200kgs N@40kgs N/Ton
- Yields are increasing
- 1st crop was irrigated
- Subsequent crops have relied on rainfall


Havana Yields 2001-08
Bales/ha
Bales /ha
14
12
10
8
6
4
2
0
8.4
8.4
9
10.4
9.9
9.9
11.5
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08


Applied N /ha / Bale
Kgs N
300
250
200
150
100
50
0
27
22
17
12
7
Kg N/ha
Bales/ha
kg N/bale
150
135
256
168
192
133
110
17.9
16.1
28.4
16.2
19.4
13.4
9.6
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08

Vetch Cost/Benefits

Cost of seed & sowing: $45/ha

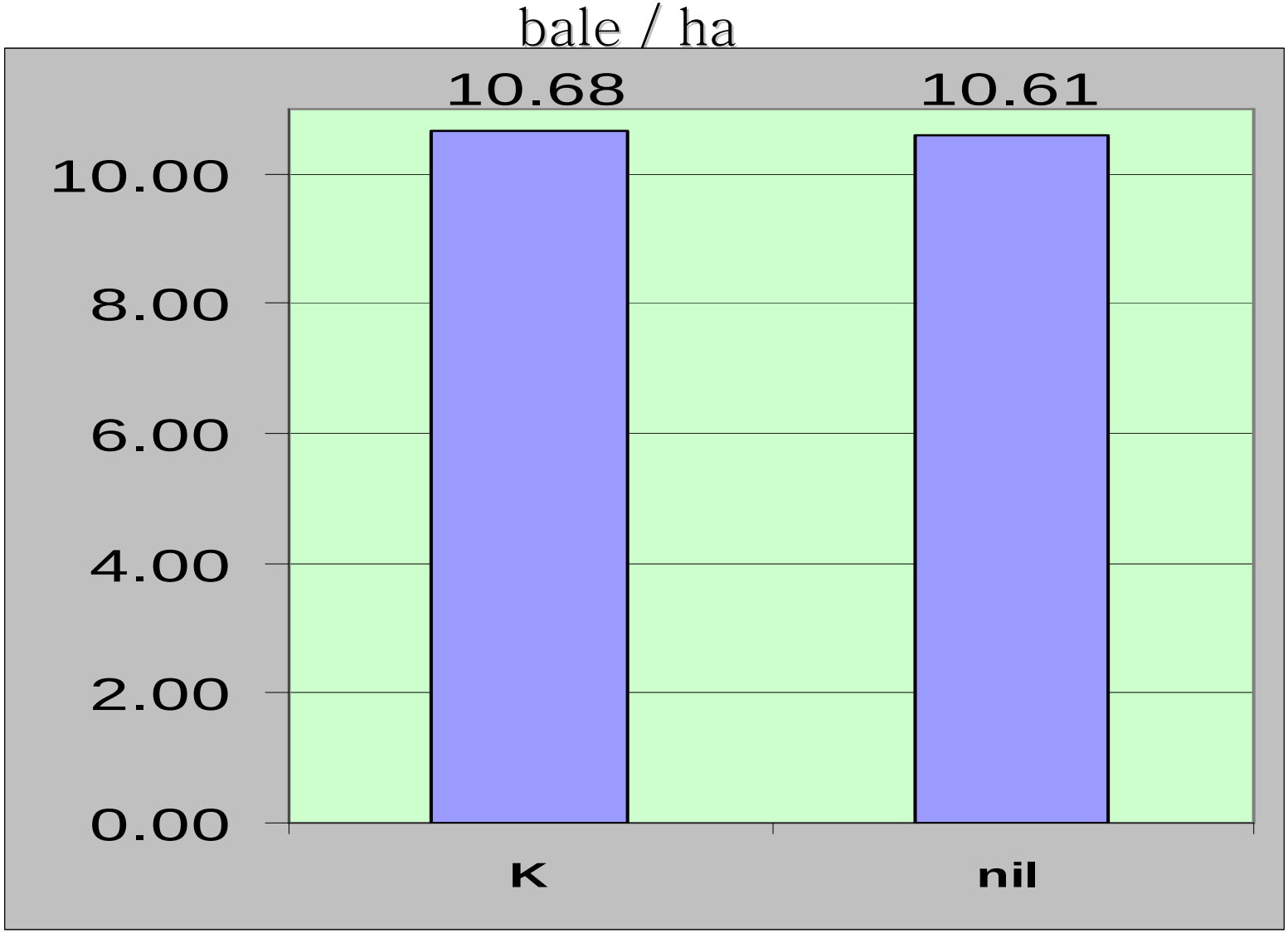
- Applied N reduction: 60Kgs in the 1st year
- Soil Structure improvements. Friable & easier to sow into moisture.
- Disease: Black root rot is less evident.
- Is the vetch allowing the plant access to more nutrients? I suspect so.

What did not work

Pottasium trials 2007/08

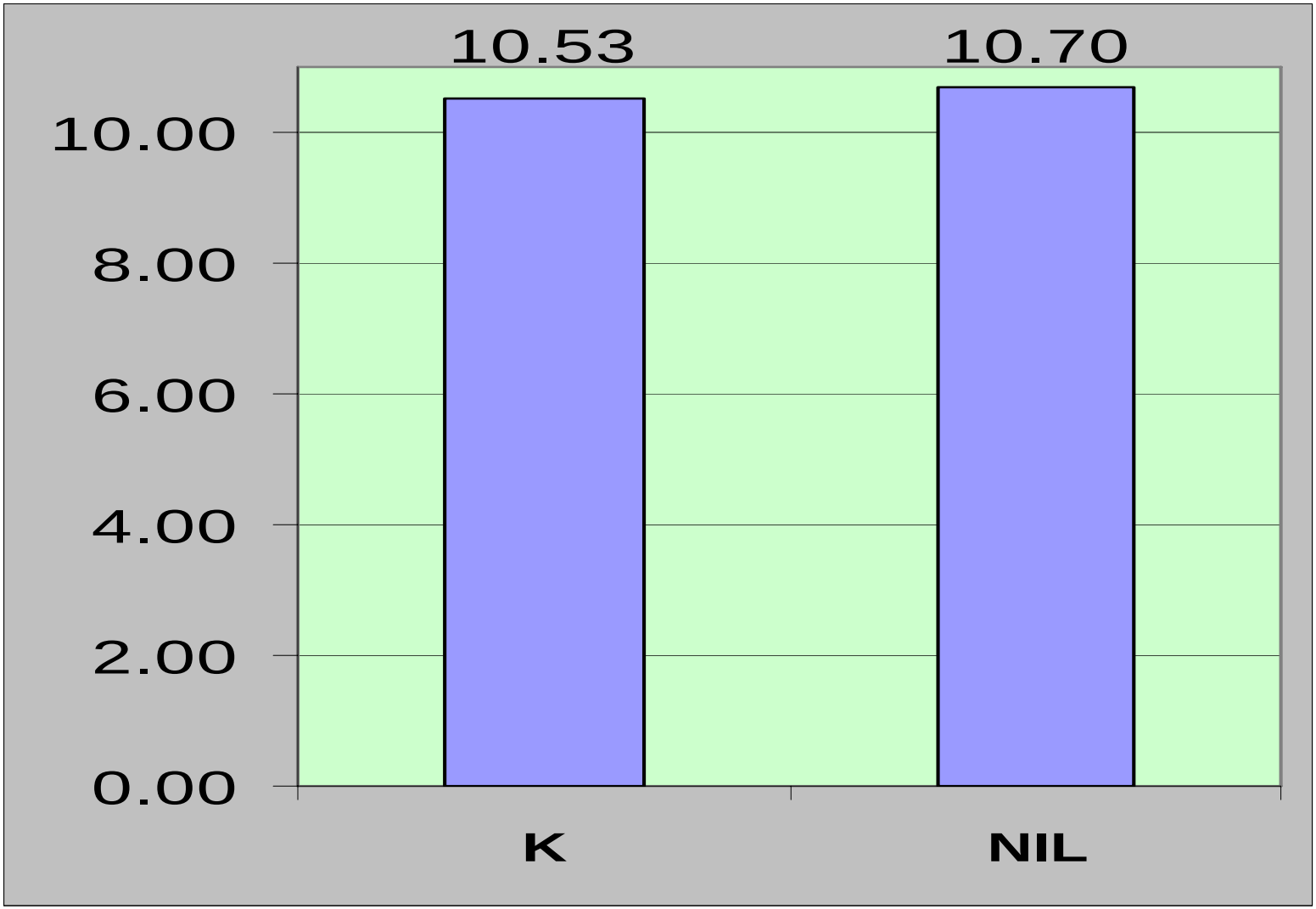
- Potassium trials were done on 2 field in 2007 & 1 field in 2008
- The trials were not replicated across the field but were simply in strips in close proximity to each other and measured by module weight.

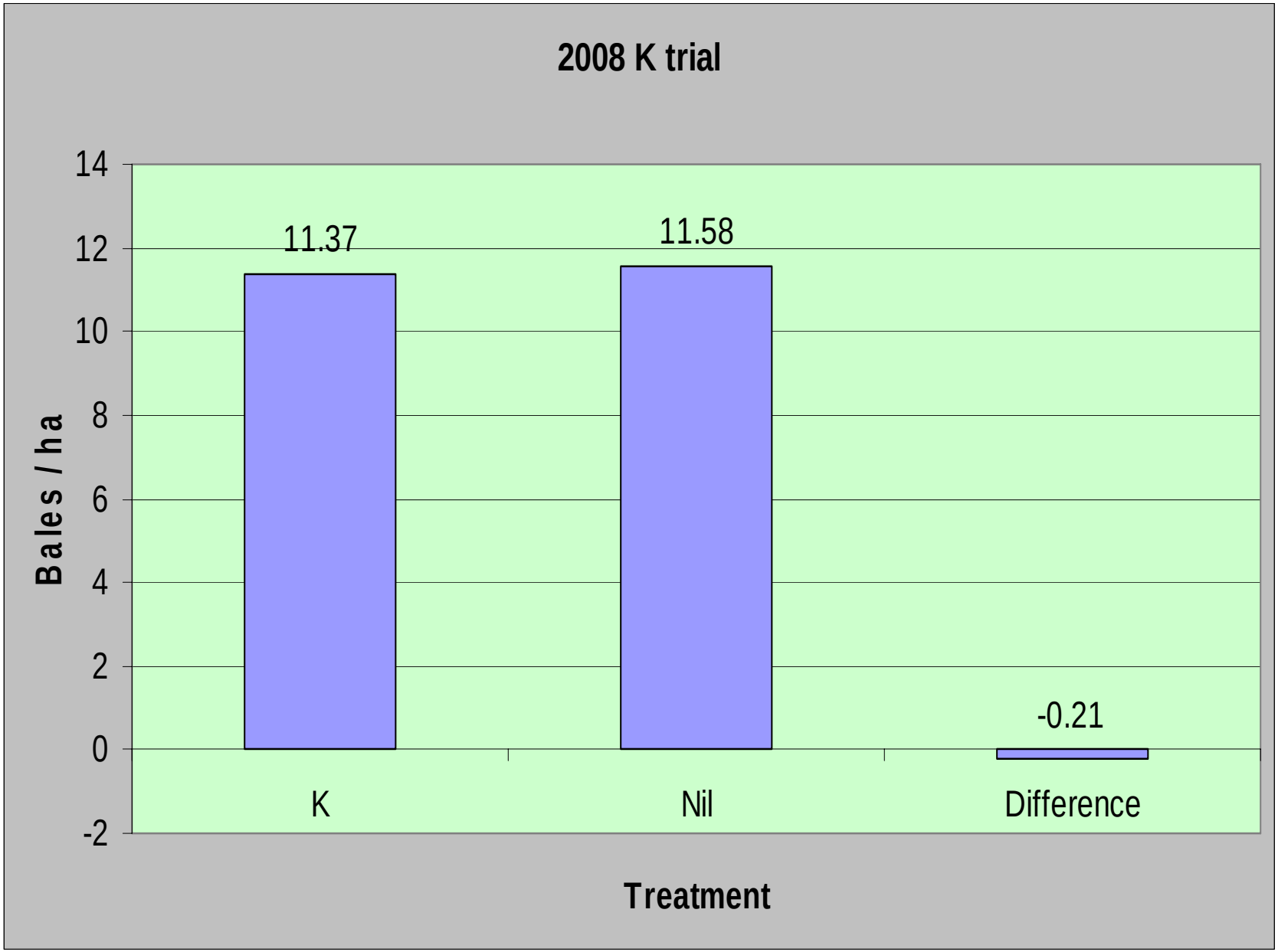
2007 Field 5 K trial

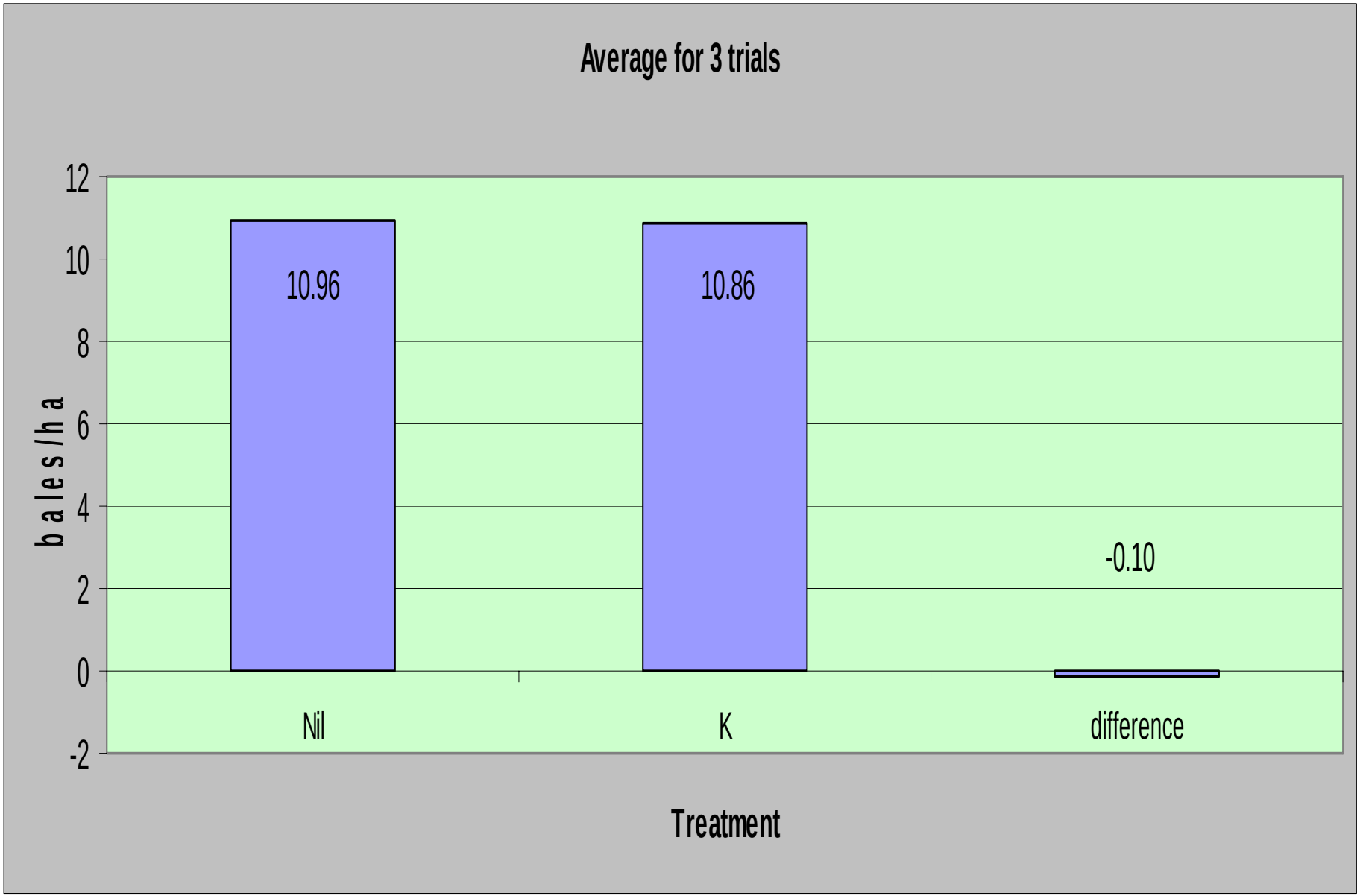


2007 Field 10 K Trial

bales / ha




2008 K trial
14
12
10
8
6
4
2
0
-2
Bales / ha
11.37
11.58
-0.21
K
Nil
Difference
Treatment


Average for 3 trials
12
10
8
6
4
2
0
-2
bales/ha
10.96
10.86
-0.10
Nil
K
difference
Treatment

Cost/Benefit Analysis

- 2008 K costs: 4 applications @ $34 each
  Total: $136. @$450/bale = .3 bale/ha
- Net result: - ($230)

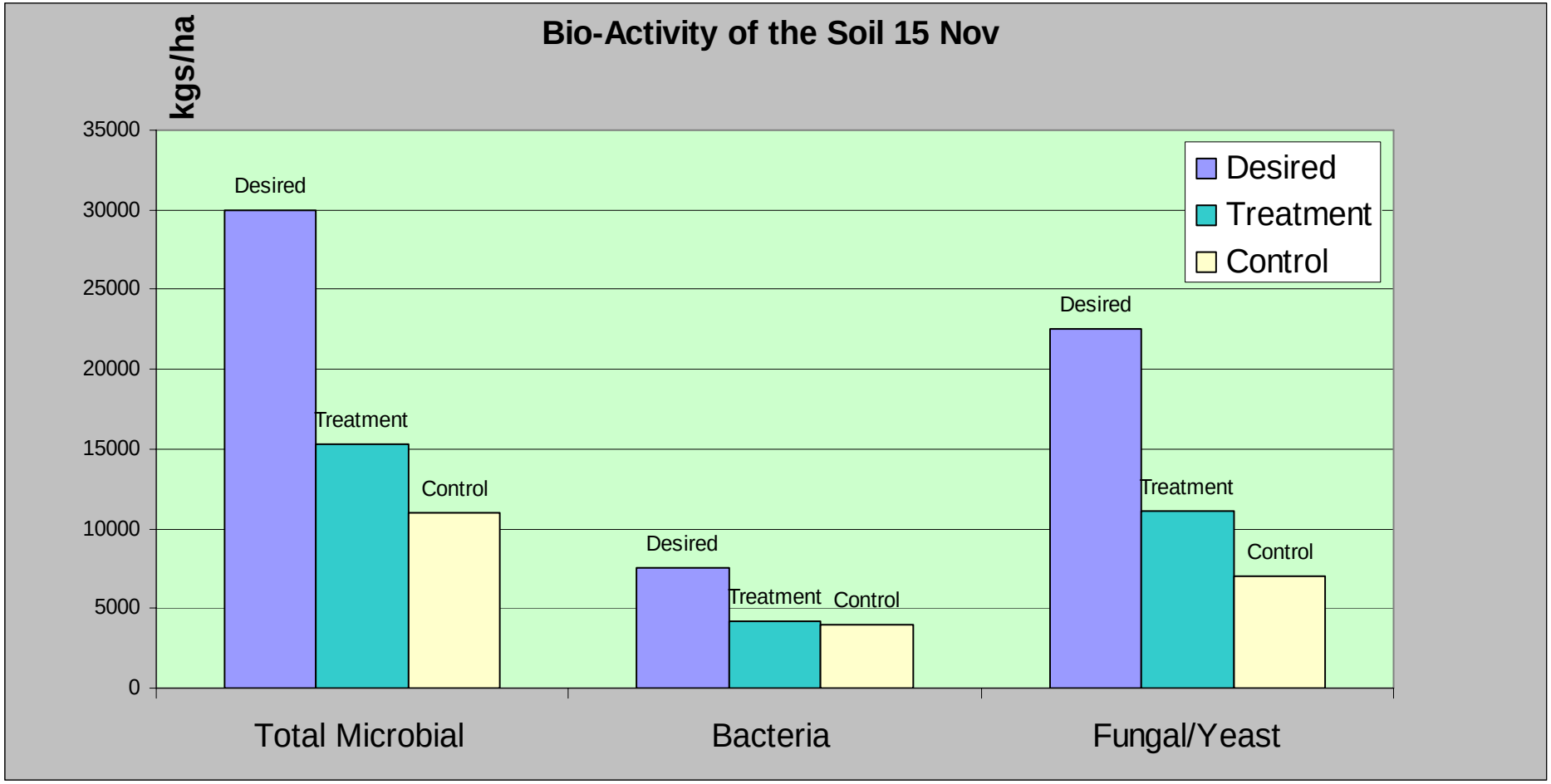
- 2007 K costs: 4 applications @ $24 each
  Total: $96. @$450/bale = .2 bale/ha
- Net result: - ($141)

Where to now

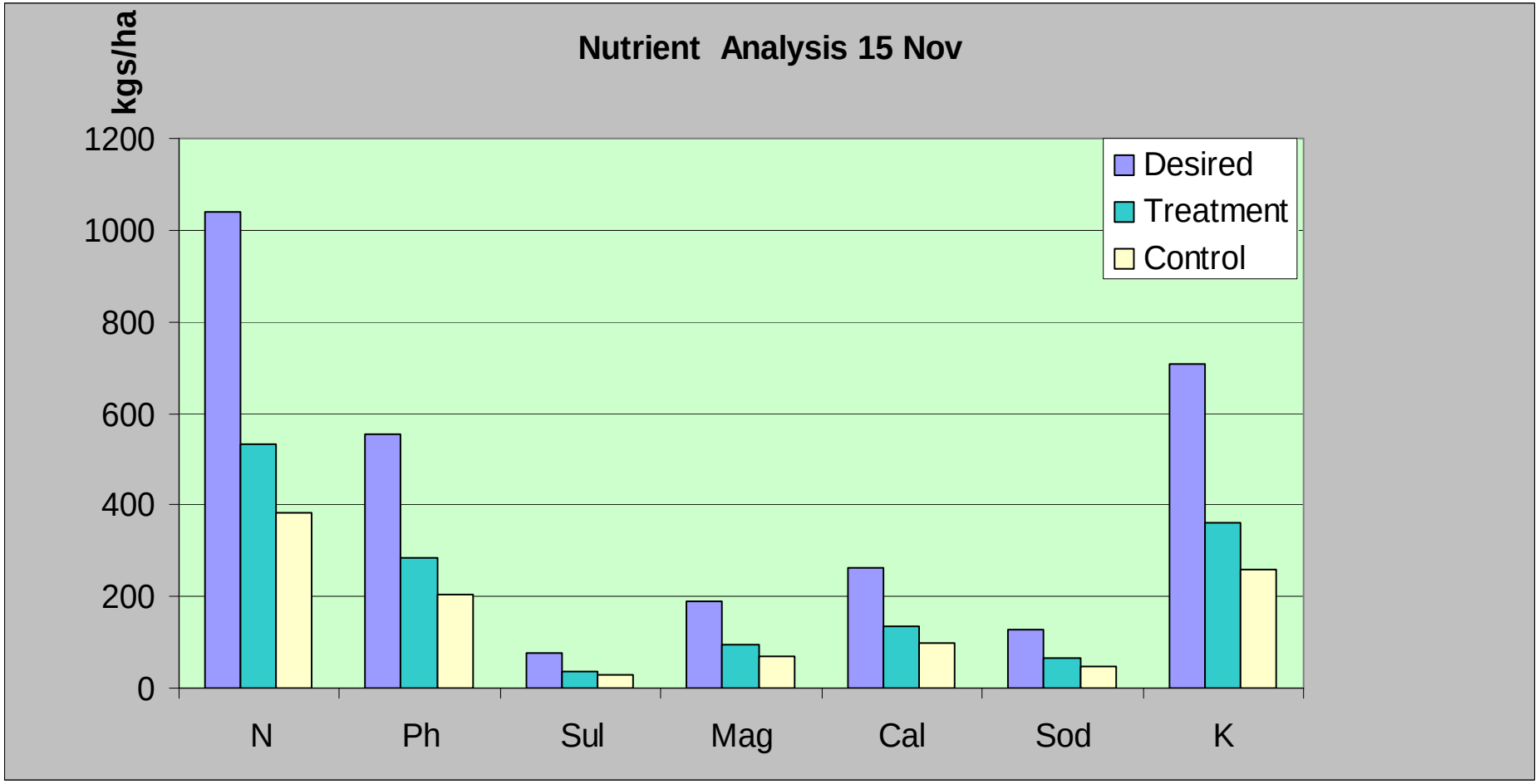
Bio Innoculate

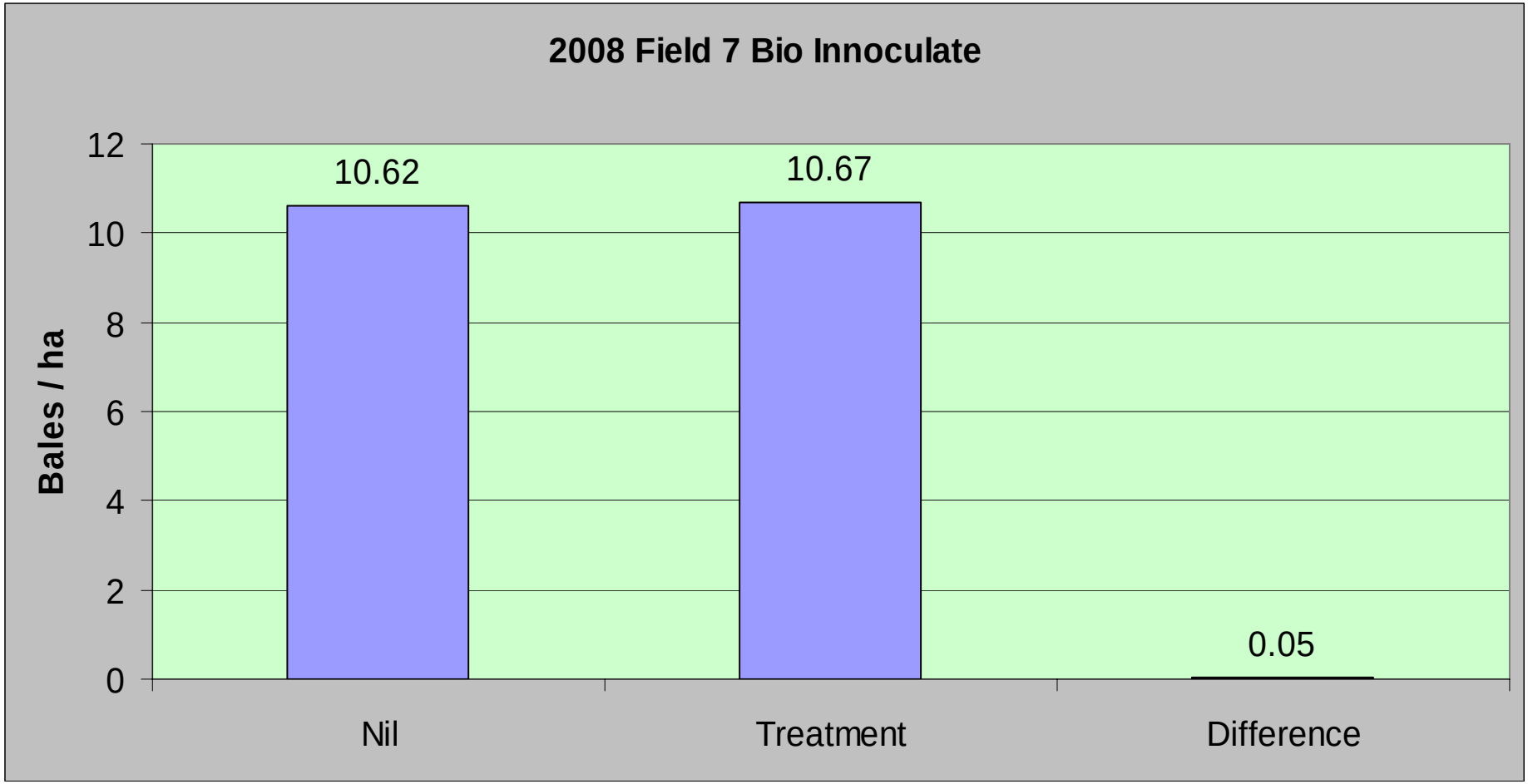
Bio Innoculate is a Carbon-based starter nutrient pack designed to drench seedlings with microbial innoculant, plant and root-developing nutrients.

Enzyme Test Fld 7



Enzyme Test Fld 7




2008 Field 7 Bio Innoculate
Bales / ha
12
10
8
6
4
2
0
10.62
10.67
0.05
Nil
Treatment
Difference

Cost/Benefit Analysis

- Cost: 20lts @ $1.45 = $29/ha
- Benefit: .05bale @ $450 = $22.5/ha
- Net result: - ($6.50)/ha
- Why Bio Innoculate? An attempt to incorporate some biology into the root zone to help the uptake of nutrients.

Stubble Digest (claims)

- Stubble Digest is a culture infused with a proprietary blend of protein and carbohydrate to promote rapid colonisation.
- It facilitates the breakdown and digestion of stubble and trash loads.
- It boosts the physical, chemical and biological characteristics of the soil via greater microbial biomass of topsoil.

Benefits (claims)

- Establishes viable decomposing populations of cellulose digesting fungi
- Minimises soil Nitrogen required to break down high Carbon trash loads
- Has shown greater soil water holding capacity
- Has shown increased capacity to build soil Carbon

NU-test
nutrient uptake

Wheat

REPORT

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Client Name:	Johno Phelps
Paddock/Block:	FIELD 1 (HAVANA)
Agronomist:	Bart Davidson
Report date:	08/08/08
Growth stage (GS):	30-39

Results [ppm]:

NUTRIENT	DESIRABLE		RESULT	STATUS
	High	Low		
Ammonium - NH4	100	15	35	optimum
Nitrate - NO3	1900	700	5086	high
Phosphorus - P	425	230	122	low
Sulphur - S	350	150	161	satisfactory
Potassium - K	7500	4500	7736	optimum
Calcium - Ca	510	250	268	low
Magnesium - Mg	250	130	245	high
Boron - B	1.30	0.50	0.57	satisfactory
Molybdenum - Mo	0.05	0.02	0.056	high
Copper - Cu	3.0	1.6	1.75	optimum
Iron - Fe	8.0	2.0	6.83	optimum
Manganese - Mn	15.0	8.0	13.86	optimum
Zinc - Zn	3.50	2.0	2.32	optimum
Sodium - Na	250	50	196	satisfactory
Chloride - Cl	2000	20	5490	high
brix %	16	11	0	-