NGS Test Equibiome

Aneta Claridge

RETEST FOR ALAN 02/07/2019

DIVERSITY

The second test indicated an increase in diversity linked to an increase in overall health.

Total Bacteria	1st Test	2nd Test
Diversity	646	505
Tenericutes (overall health)	26 species	28 species

BUTYRATE AND ACETATE PRODUCING BACTERIA

Butyrate producing bacteria are linked to immune function, higher levels are linked to rapid immune response and anti-inflammatory action. These bacteria are significantly reduced following antibiotic use.

Butyrate Producing Bacteria	1st Test (%)	2nd Test (%)	Response
Bifidobacteria	0.023	0.048	**Increase** Bifidobacteria digest fibre, help prevent infection and inflammation and produce vitamins.
Lachnospiraeae	14.39	13.61	**Insignificant change** These bacteria are linked to good weight and metabolism.

Lactobacillaes	6.00	2.16	**Decrease** Good for overall gut health.
Eubacterium	0.034	0.027	**Decrease**
Ruminococcaceae	5.74	3.26	**Decrease** Increase the omega 3 in the diet.
Butyrivibrio	0.17	0.31	**Increase**
Acetate producing bacteria	1st Test	2nd Test	
Porphyromonadacaea	8.18	11.10	**Increase** These bacteria produce acetate which is the main volatile fatty acids from the breakdown of fibre. Used by the liver, gut and muscle.
Total	**34.54**	**30.51**	**Decrease in metabolites**

GUT WALL RENEWAL

	Test 1 (%)	**Test 2 (%)**	**Difference**
Eubacteria	0.18	0.28	**Slight increase**
Roseburia	0.84	1.64	**Increase**

BACTERIA LINKED TO ALLERGIES

	1st Test	2nd Test	
Lactobacillus	1.17%	0.06%	**Decrease** Lactobacillus protects against respiratory allergies
Lactobacillales	6.00%	2.16%	**Decrease** These bacteria increase with exercise and provide protection against allergies.
Tenericutes	6420 hits	7128 hits	**Increase** Reduced by medication including NSAID's, omeprazole, antibiotics and steroids.
Proteobacteria	4.28%	4.69%	**Insignificant change** This group contain inflammatory bacteria linked to laminitis and allergies
Fusobacter leptotrich	0.002%	0.001%	**Insignificant change**
Cyanobacter	1.77%	1.20%	**Decrease**
Paludibacter	4.32%	6.77%	**Increase**

GENERAL HEALTH

	1st Test (%)	2nd Test (%)	
Firmicutes	44.77	34.19	**Decrease** Levels between 49-85% contribute to normal homeostasis of the biome.
Bacteriodetes	28.03	30.29	**Increase** Levels of over 20% are linked to colitis. The recommended level is 10%.
Fibrobacteres	3.87	1.21	**Decrease** Inflammatory in nature. Recommended level is 10%.
Actinobacteria	1.49	0.84	**Decrease** Contribute to overall health of the biome with recommended levels of 2%.
Blautia	8.33	6.61	**Decrease** It is anti-inflammatory and contribute to good metabolism. Recommended level is 8-10%.

PATHOGENS

	1st Test	2nd Test
Bartonella	7	0
Borrelia	7	25
Rickettsia	27	17
Piscrickettsia	2	4
Rickettsia Ovina	7	6
Helminthoeca	6	2
Neorickettsia	6	2

SUMMARY

There has been some good progress made including-

- An increase in Tenericutes species.
- An increase in roseburia.

There are still some hurdles to get over including-

- To increase metabolites including those linked to metabolism.
- To increase lactobacillus in the gut.
- Dietary advice, continue to provide plant polyphenols and support liver function, suggestions milk thistle.

PATHOGENIC BACTERIA LINKED TO GRASS SICKNESS (EQUINE DYSAUTONOMIA)

Clostridium perfringens	Clear
Clostridium barati	0.033%
Clostridium bifermentans	Clear
Clostridium botulinum	Clear
Clostridium carnis	Clear
Clostridium clostridioforme	Clear
Clostridium difficile	Clear
Clostridium glycolicum	Clear
Clostridium limosum	Clear
C. sardiniensis	0.136%
C. sordelli	Clear
Clostridium sphenoides	Clear
Clostridium botulinum A ***B*** ***F***	Clear
Clostrdium sporogenes	Clear
Clostridium tertium	Clear

Alan screened clear for most of Grass Sickness with some level of *C. baratii* (0.033%) and *C. sardiniensis* (0.136%).