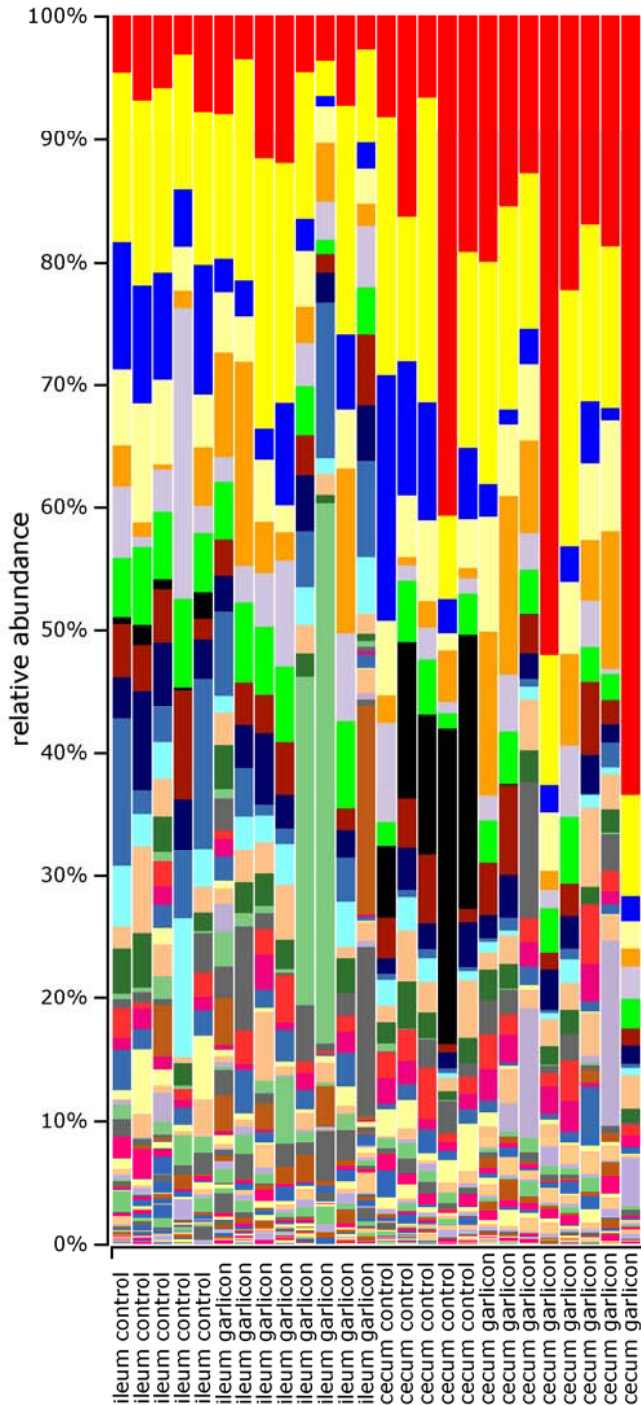


Table S1. Nutritional information of the basal feed employed in laying hens.

	%
Raw protein	16.00
Carbohydrates	57.57
Raw fiber	3.90
Fat content	3.50
Ashes	13.00
Calcium	3.85
Phosphorus	0.59
Sodium	0.16
Lysine	0.97
Metionine	0.46

Supplementary Figures 1. Bar plot of the relative bacterial abundance at the genus level in different gut regions of laying hens and treatments. Control refers to laying hens fed a basal diet while Garlicon refers to experimental laying hens fed a basal diet supplemented with the commercial *Alliaceae* extract. The sixteen most abundance genera are shown in a unique color set. The color of the rest of genera (less abundant) are repeated every 8 colors.

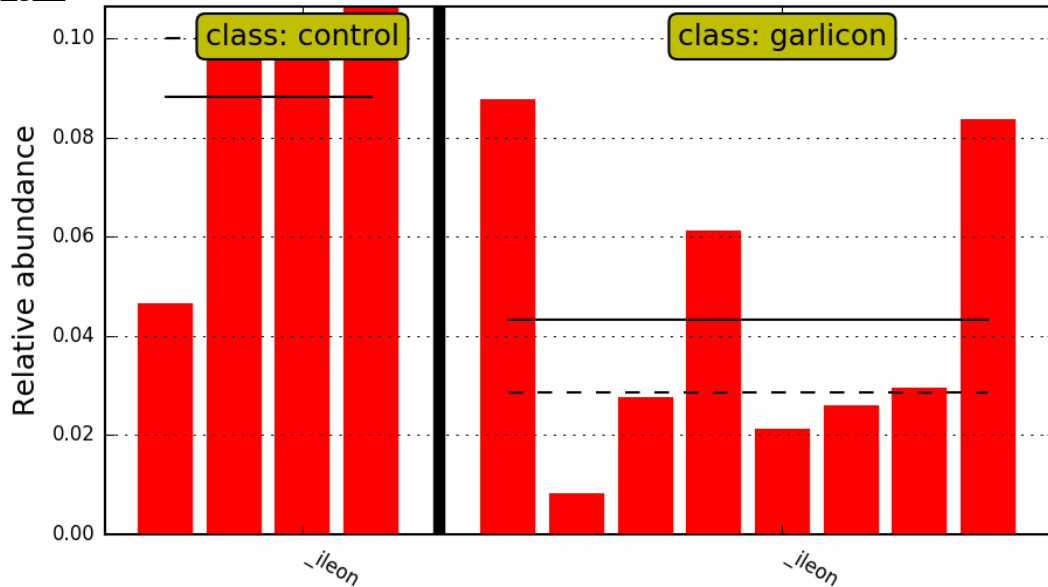


- p_Proteobacteria;c_Deltaproteobacteria;o_Desulfovibrionales;f_Desulfovibrionaceae;g_Desulfovibrio
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Phascalarctobacterium
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Bacteroidaceae;g_Bacteroides
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_g
- p_Fusobacteria;c_Fusobacteria;o_Fusobacteriales;f_Fusobacteriaceae;g_Fusobacterium
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Megamonas
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Ruminococcaceae;g
- p_OPB;c_o_f;g
- p_Tenericutes;c_Mollicutes;o_RF39;f_g
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Mogibacteriaceae;g
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Peptostreptococcaceae;g
- p_Actinobacteria;c_Coriorbacteriales;o_Coriorbacteriales;f_Coriorbacteriaceae;g
- p_Spirochaetes;c_Spirochaetes;o_Sphaerochaetales;f_Sphaerochaetaceae;g_Sphaerochaeta
- p_Firmicutes;c_Erysipelotrichi;o_Erysipelotrichales;f_Erysipelotrichaceae;g
- p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Streptococcaceae;g_Streptococcus
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Paraprevotellaceae;g_Prevotella
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Coprococcus
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Odoribacteraceae;g_Odoribacter
- p_Firmicutes;c_Erysipelotrichi;o_Erysipelotrichales;f_Erysipelotrichaceae;g_Eubacterium
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_S24-7;g
- p_Cyanobacteria;c_400d-2;o_YS2;f_g
- p_Spirochaetes;c_Spirochaetes;o_Spirochaetales;f_Spirochaetaceae;g_Treponema
- p_Firmicutes;c_Erysipelotrichi;o_Erysipelotrichales;f_Erysipelotrichaceae;g_cc_115
- p_Firmicutes;c_Erysipelotrichi;o_Erysipelotrichales;f_Erysipelotrichaceae;g_Coprobacillus
- p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Streptococcaceae;g_Lactococcus
- p_Firmicutes;c_Erysipelotrichi;o_Erysipelotrichales;f_Erysipelotrichaceae;g_RFN20
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Megasphaera
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Paraprevotellaceae;g
- p_Proteobacteria;c_Alphaproteobacteria;o_f;g
- p_Firmicutes;c_Erysipelotrichi;o_Erysipelotrichales;f_Erysipelotrichaceae;g_p-75-a5
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Paraprevotellaceae;g_YRC22
- p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Lactobacillaceae;g_Lactobacillus
- p_Tenericutes;c_Mollicutes;o_Anaeroplasmatales;f_Anaeroplasmataceae;g
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Paraprevotellaceae;g_CF231
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Prevotellaceae;g
- p_Proteobacteria;c_Alphaproteobacteria;o_RF32;f_g
- p_Spirochaetes;c_Spirochaetes;o_f;g
- p_Deferribacteres;c_Deferribacteres;o_Deferribacterales;f_Deferribacteraceae;g_Mucispirillum
- p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Erythrobacteraceae;g
- p_Proteobacteria;c_Epsilonproteobacteria;o_Campylobacteriales;f_Helicobacteraceae;g
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Odoribacteraceae;g_Butyricimonas
- p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingomonas
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Ruminococcaceae;g_Anaerotruncus
- p_Firmicutes;c_Erysipelotrichi;o_Erysipelotrichales;f_Erysipelotrichaceae;g_Bulleidia
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Ruminococcus
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Veillonellaceae;g_Veillonella
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Tissierellaceae;g_Anaerococcus
- p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Kaistobacter
- p_Tenericutes;c_RF3;o_ML615J-28;f_g
- p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_Sphingomonadaceae;g_Sphingobium
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_g
- p_Verrucomicrobia;c_Verrucomicrobia;o_WCHB1-41;f_RFP12;g
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyrionadaceae;g
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Clostridiaceae;g_Candidatus Arthromitus
- p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Carnobacteriaceae;g_Granulicatella
- p_Firmicutes;c_Bacilli;o_Bacillales;f_Bacillaceae;g
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Ruminococcaceae;g_Oscillospira
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Tissierellaceae;g_Finegoldia
- p_Firmicutes;c_Erysipelotrichi;o_Erysipelotrichales;f_Erysipelotrichaceae;g
- p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Oxalobacteraceae;g
- p_Proteobacteria;c_Alphaproteobacteria;o_Sphingomonadales;f_g
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Mogibacteriaceae;g

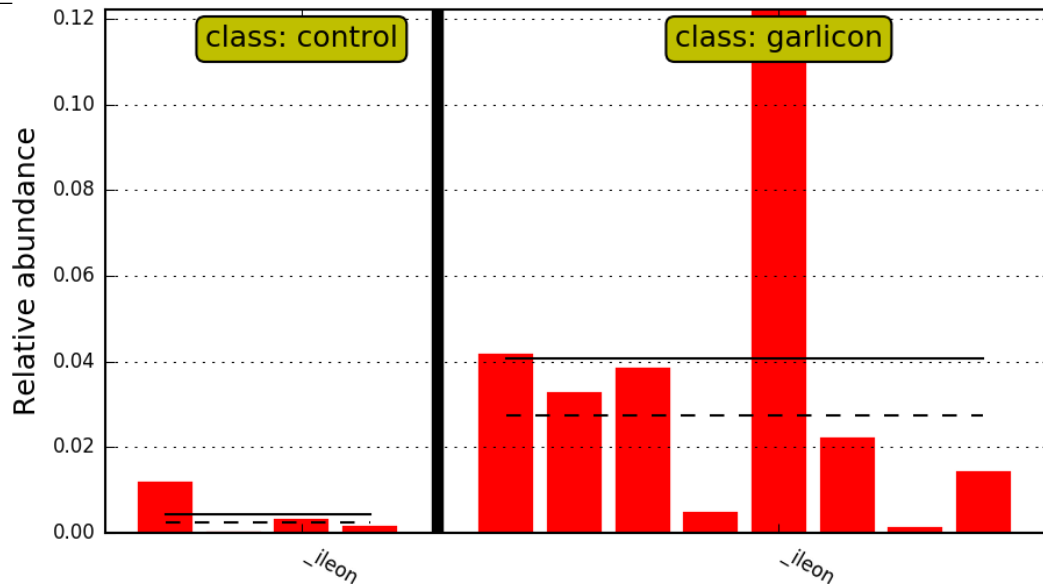
- p_Tenericutes;c_Mollicutes;o_Mycoplasmatales;f_Mycoplasmataceae;g
- p_Bacteroidetes;c_Sphingobacteria;o_Sphingobacteriales;f_Sphingobacteriaceae;g_Sphingobacterium
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Ruminococcaceae;g_Anaerofillum
- p_Bacteroidetes;c_Saprosiriales;o_Saprosiriales;f_Chitinophagaceae;g_Sediminibacterium
- p_Proteobacteria;c_Epsilonproteobacteria;o_Campylobacteriales;f_Campylobacteraceae;g_Campylobacter
- p_Thermi;c_Deinococci;o_Deinococcales;f_Deinococcaceae;g_Deinococcus
- p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Psychrobacter
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Clostridiaceae;g_Clostridium
- p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Acinetobacter
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Blautia
- p_Proteobacteria;c_Gammaproteobacteria;o_Aeromonadales;f_Succinivibrionaceae;g_Anaerobiospirillum
- p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Prevotellaceae;g_Prevotella
- p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Actinomycetaceae;g_Actinomyces
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Barnesiellaceae;g
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Tissierellaceae;g_Gallicola
- p_Acidobacteria;c_Acidobacteria-6;o_iii1-15;f_g
- p_Bacteroidetes;c_Sphingobacteria;o_Sphingobacteriales;f_Sphingobacteriaceae;g_Pedobacter
- p_Spirochaetes;c_Spirochaetes;o_Spirochaetales;f_Spirochaetaceae;g_Spirochaeta
- p_Proteobacteria;c_Gammaproteobacteria;o_Enterobacteriales;f_Enterobacteriaceae;g
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Clostridiaceae;g
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Acidaminobacteraceae;g_Fusibacter
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Paraprevotellaceae;g
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Clostridiaceae;g
- p_Proteobacteria;c_Gammaproteobacteria;o_Xanthomonadales;f_Xanthomonadaceae;g_Stenotrophomonas
- p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Alcaligenaceae;g_Sutterella
- p_Bacteroidetes;c_Saprosiriales;o_Saprosiriales;f_Chitinophagaceae;g_Segetibacter
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Tissierellaceae;g_Peptoniphilus
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_BS11;g
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Ruminococcaceae;g_Faecalibacterium
- p_Tenericutes;c_Mollicutes;o_Mycoplasmatales;f_Mycoplasmataceae;g_Mycoplasma
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyrionadaceae;g_Parabacteroides
- p_Actinobacteria;c_Coriorbacteriales;o_Coriorbacteriales;f_Coriorbacteriaceae;g
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Tissierellaceae;g_ph2
- p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Aerococcaceae;g_Alloicoccus
- p_Bacteroidetes;c_Sphingobacteria;o_Sphingobacteriales;f_Sphingobacteriaceae;g
- p_Proteobacteria;c_Gammaproteobacteria;o_Xanthomonadales;f_Xanthomonadaceae;g
- p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Comamonadaceae;g_Delftia
- p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Macrococcus
- p_Firmicutes;c_Bacilli;o_Bacillales;f_Staphylococcaceae;g_Staphylococcus
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Ruminococcaceae;g_Ruminococcus
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Christensenellaceae;g
- p_Verrucomicrobia;c_Verrucomicrobia;o_Verrucomicrobiales;f_Verrucomicrobiaceae;g_Akkermansia
- p_Bacteroidetes;c_Flavobacteria;o_Flavobacteriales;f_Flavobacteriaceae;g_Flavobacterium
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Rikenellaceae;g
- p_WPS-2;c_o_f;g
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Ruminococcaceae;g
- p_Bacteroidetes;c_Bacteroidia;o_Bacteroidales;f_Porphyrionadaceae;g_Paludibacter
- p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Moraxellaceae;g_Enhydrobacter
- p_Proteobacteria;c_Betaproteobacteria;o_SBl14;f_g
- p_Proteobacteria;c_Betaproteobacteria;o_Burkholderiales;f_Oxalobacteraceae;g_Janthinobacterium
- p_Firmicutes;c_Clostridia;o_Clostridiales;f_Lachnospiraceae;g_Butyriivibrio
- p_Firmicutes;c_Bacilli;o_Lactobacillales;f_Carnobacteriaceae;g_Trichococcus
- p_Proteobacteria;c_Gammaproteobacteria;o_Aeromonadales;f_Succinivibrionaceae;g
- p_Proteobacteria;c_Deltaproteobacteria;o_Bdellovibrionales;f_Bacteriovoracaceae;g
- p_Elusimicrobia;c_Elusimicrobia;o_Elusimicrobiales;f_Elusimicrobiaceae;g
- p_Verrucomicrobia;c_Opitutae;o_Cerasicoccales;f_Cerasicocaceae;g
- p_Synergistetes;c_Synergistia;o_Synergistales;f_Synergistaceae;g
- p_Proteobacteria;c_Gammaproteobacteria;o_Pseudomonadales;f_Pseudomonadaceae;g_Pseudomonas
- p_Proteobacteria;c_Gammaproteobacteria;o_Aeromonadales;f_Succinivibrionaceae;g
- p_Proteobacteria;c_Deltaproteobacteria;o_Desulfovibrionales;f_Desulfovibrionaceae;g
- p_Proteobacteria;c_Alphaproteobacteria;o_Caulobacteriales;f_Caulobacteraceae;g
- p_Actinobacteria;c_Actinobacteria;o_Actinomycetales;f_Propionibacteriaceae;g_Propionibacterium

Figure S2. Linear Discriminant Analysis Effect Size (Lefse) showing genera from the ileum that significantly differ between control and experimentally supplemented with a commercial Alliaceae (Garlicon40 ©) laying hens. Bars showed relative abundance of the genus in each sample. Solid line represents mean relative abundance while dashed line represent the median. k: kingdom; p: phylum; c: class; o: order; f: family; and g: genus.

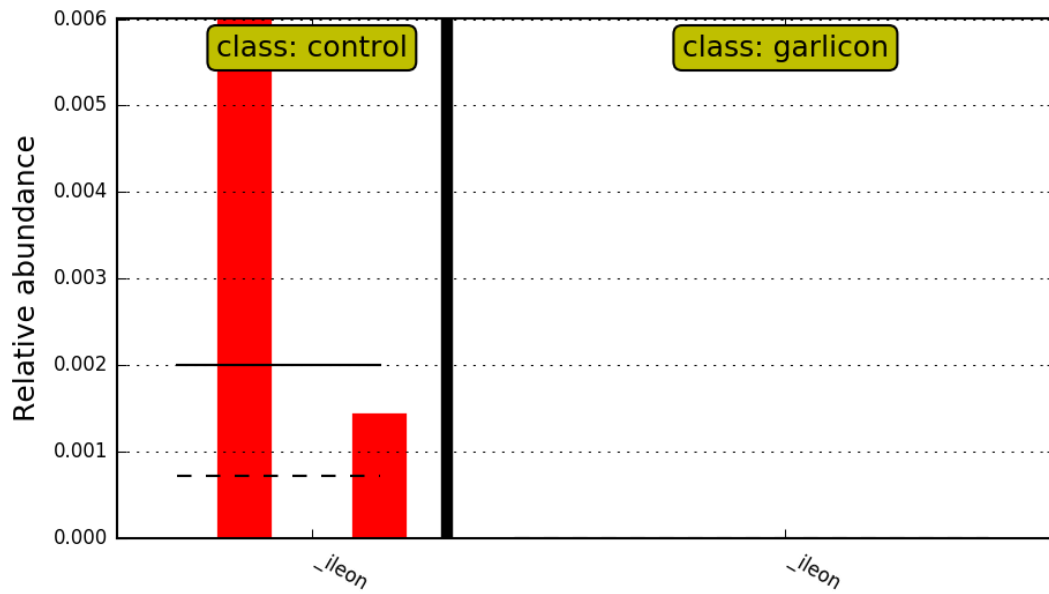
k_Bacteria_p_Bacteroidetes_c_Bacteroidia_o_Bacteroidales_f_Bacteroidaceae_g_Bacteroides



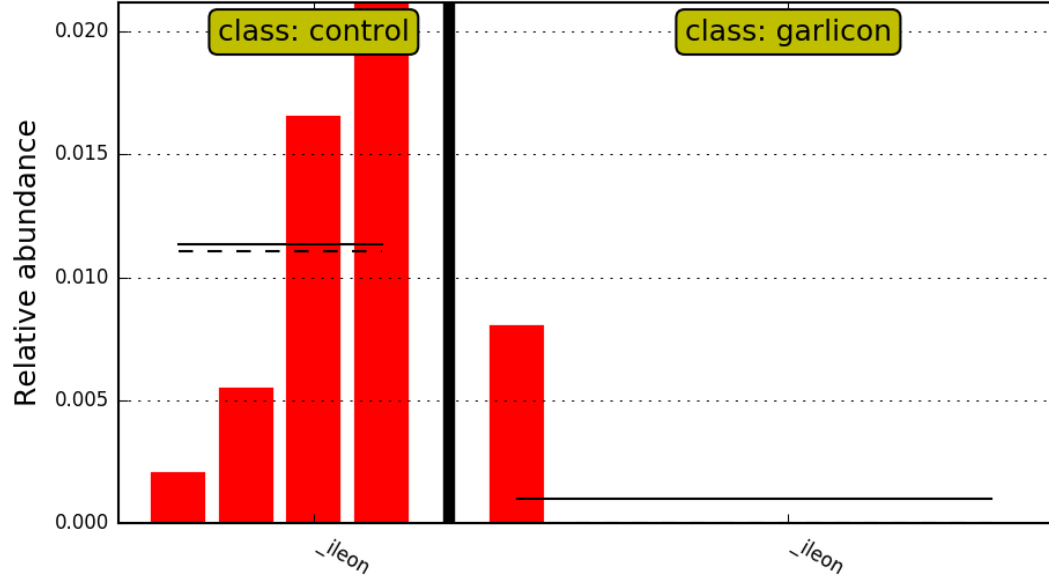
k_Bacteria_p_Firmicutes_c_Bacilli_o_Lactobacillales_f_Streptococcaceae_g_Lactococcus



k_Bacteria_p_Firmicutes_c_Erysipelotrichi_o_Erysipelotrichales_f_Erysipelotrichaceae_g_Bulleidia



k_Bacteria_p_OP8_c_o_f_g



k_Bacteria_p_Tenericutes_c_Mollicutes_o_Anaeroplasmatales_f_Anaeroplasmataceae_g

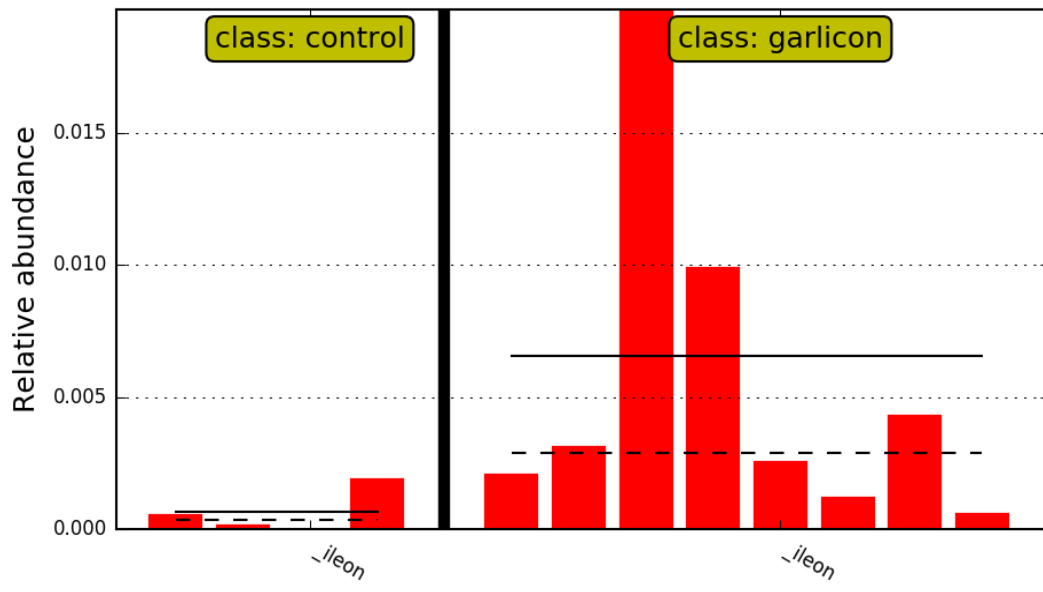
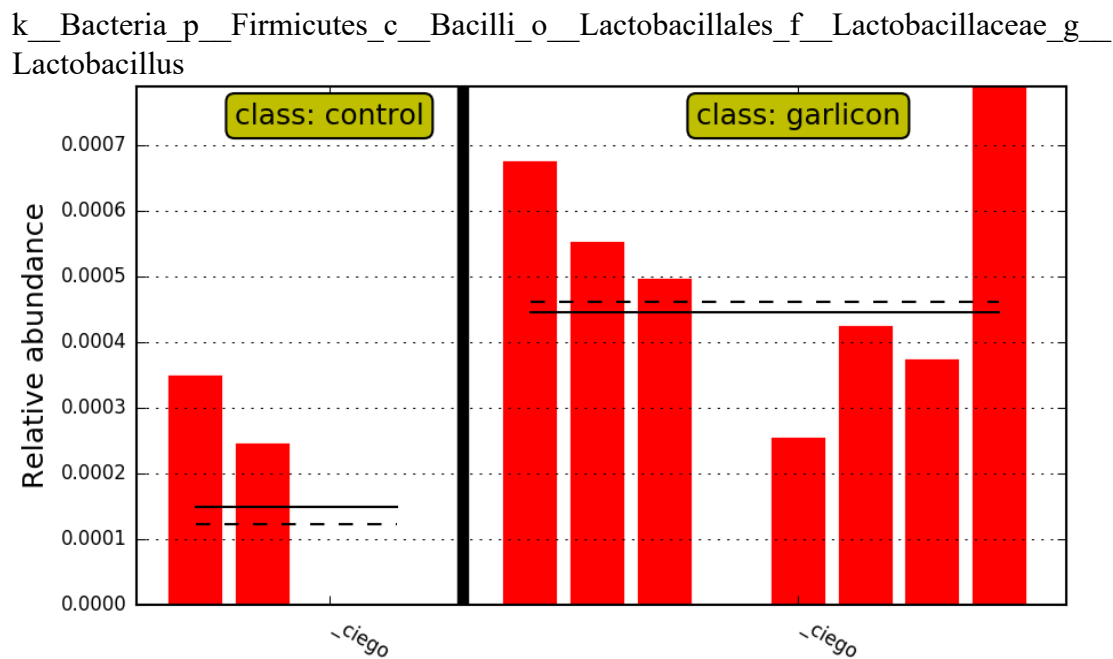
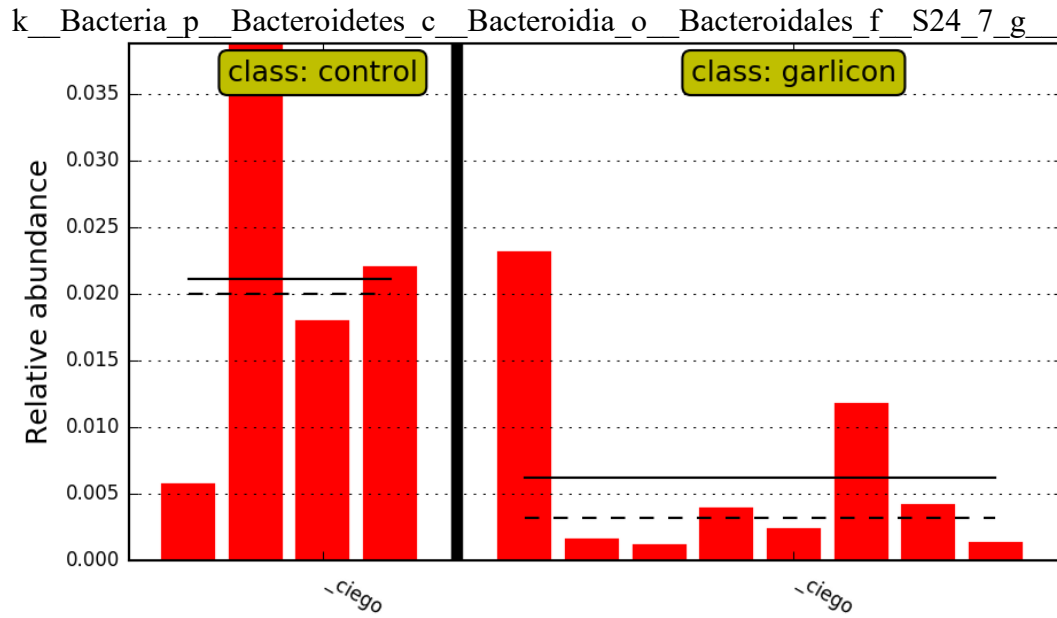
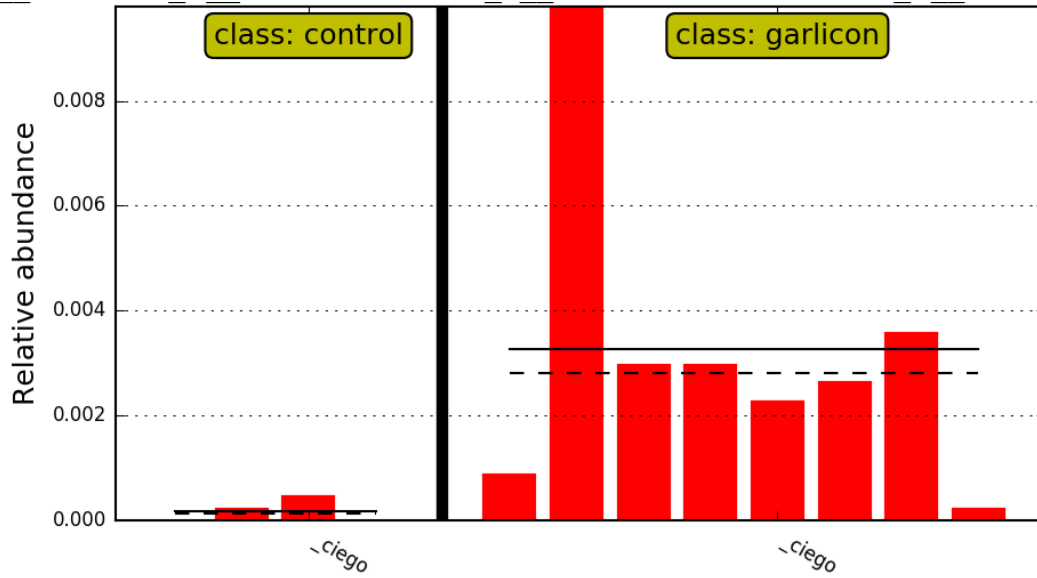


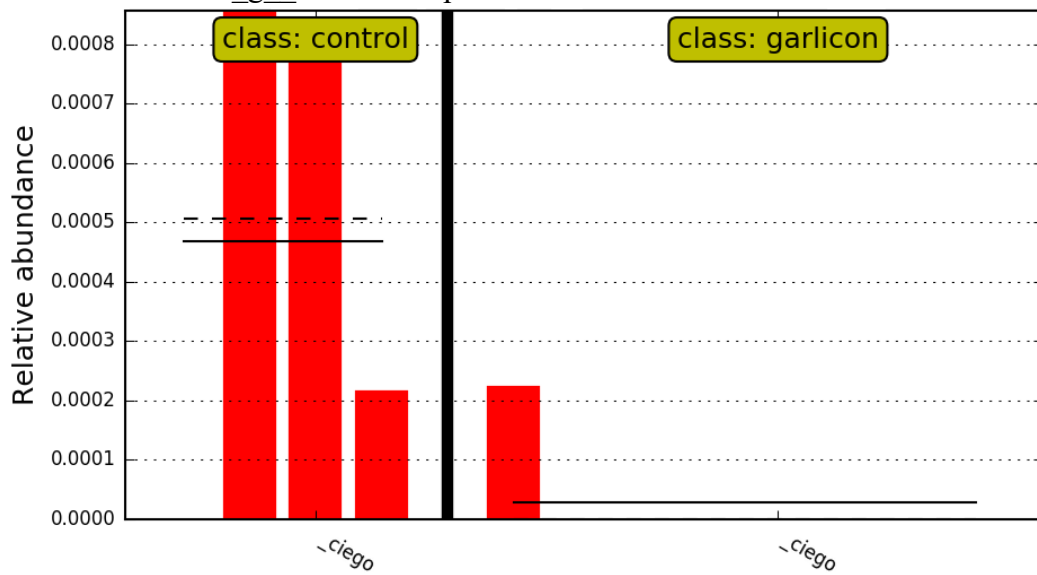
Figure S3. Linear Discriminant Analysis Effect Size (Lefse) showing genera from the cecum (*ciego*) that significantly differ between control and experimentally supplemented with a commercial Alliaceae (Garlicon40 ©) laying hens. Bars showed relative abundance of the genus in each sample. Solid line mean relative abundance while dashed line showed median relative abundance. k: kingdom; p: phylum; c: class; o: order; f: family; and g: genus.



k_Bacteria_p_Proteobacteria_c_Alphaproteobacteria_o_RF32_f_g



k_Bacteria_p_Proteobacteria_c_Gammaproteobacteria_o_Aeromonadales_f_Succinivibrionaceae_g_Anaerobiospirillum



k_Bacteria_p_Proteobacteria_c_Gammaproteobacteria_o_Pseudomonadales_f_Moraxellaceae_g_Acinetobacter

