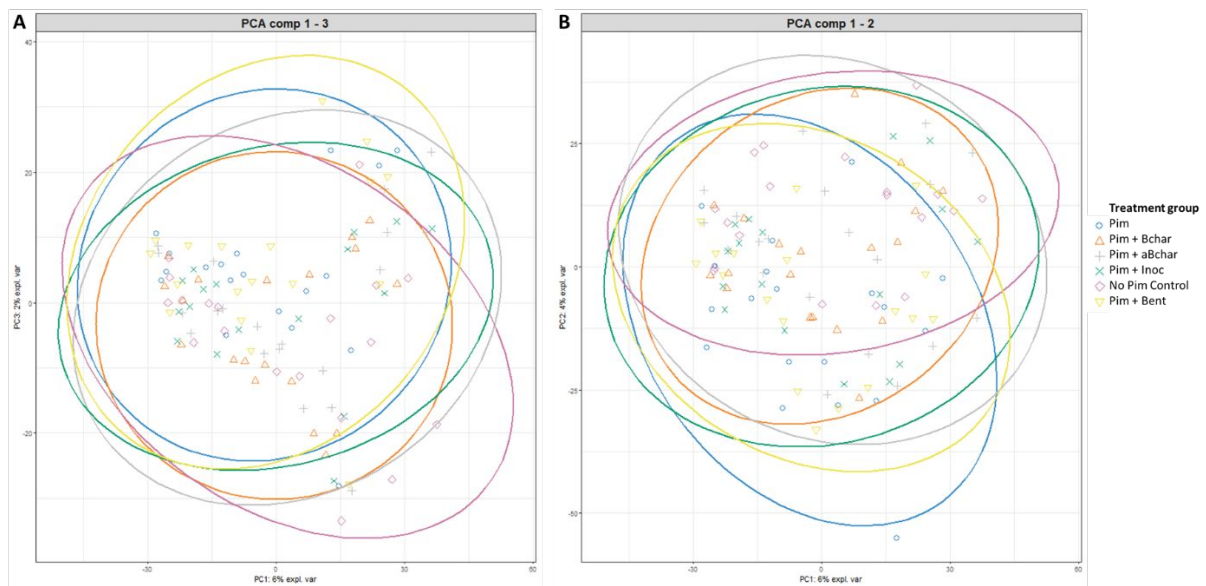
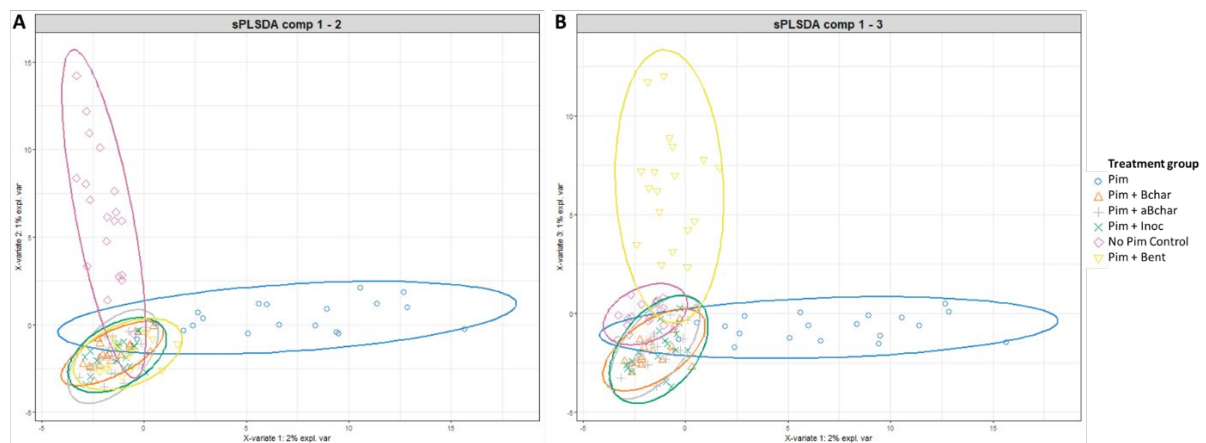


## Supplementary Material

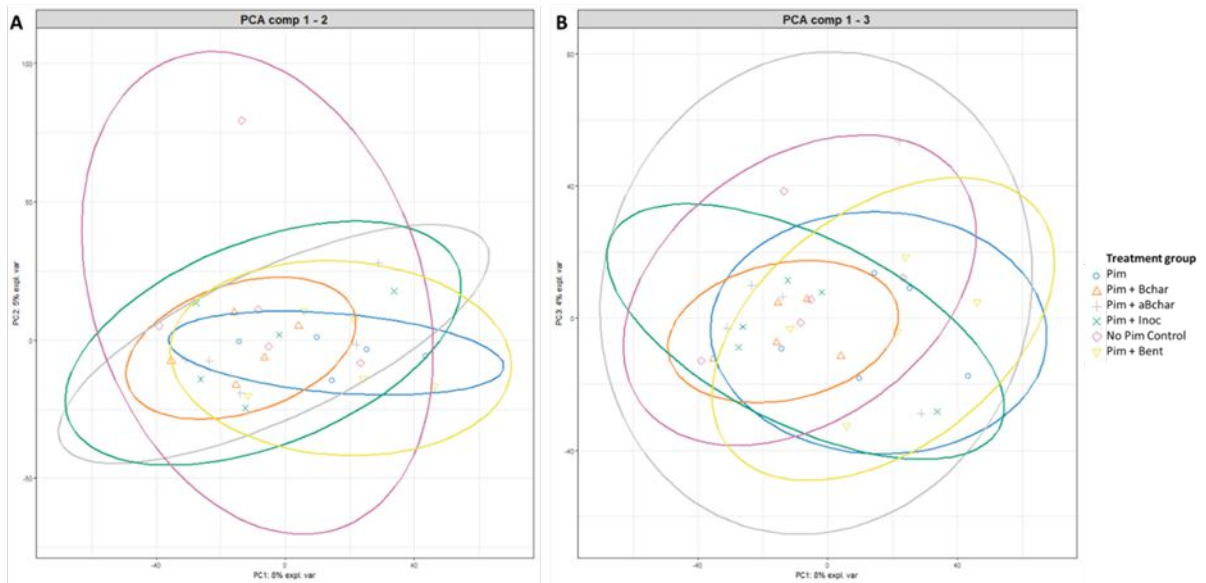
### Additional results of rumen microbiome analysis.



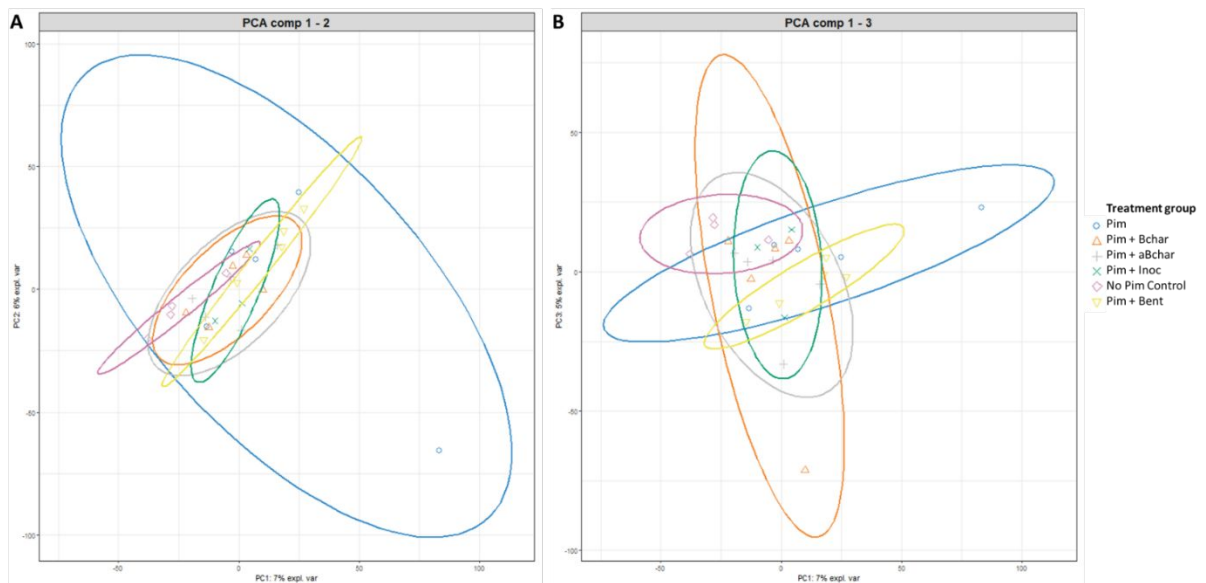
**Figure S1.** Variation in the rumen microbial populations of cattle throughout the duration of the Pimelea feeding trial (14 weeks of rumen fluid sampling). PCA plot with bacterial and archaeal populations of rumen fluid samples from each animal at four sample collection time-points, coloured according to the experimental treatment group, and results shown on the basis of three components (A) Components 1 vs 2 (PCA comp 1-2); and (B) Components 1 vs 3 (PCA comp 1-3).



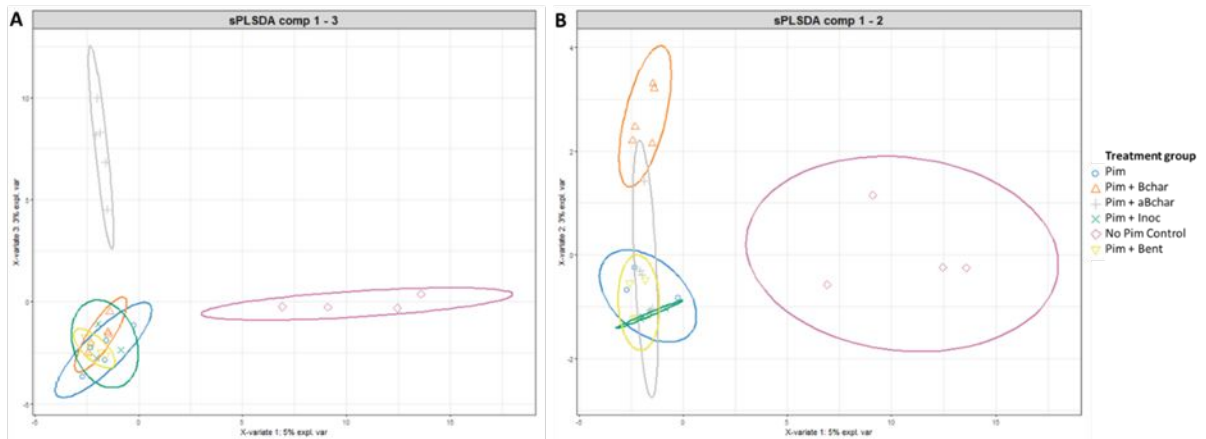
**Figure S2.** Variation in the microbial populations of cattle throughout the duration of the Pimelea feeding trial (within 14 weeks of rumen fluid sampling), results from sPLSDA, with bacterial and archaeal populations of rumen fluid samples from each animal at four sample collection time-points, coloured according to the experimental treatment group, and results shown on the basis of three components (A) Components 1 vs 2 (sPLSDA comp 1-2); and (B) Components 1 vs 3 (sPLSDA comp 1-3).



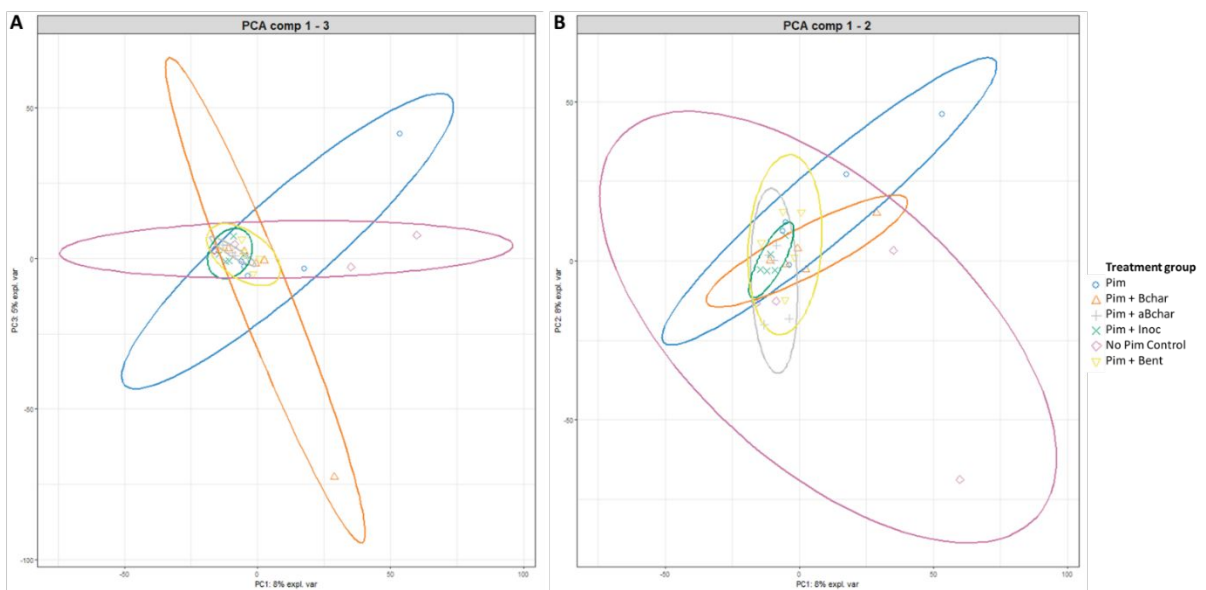
**Figure S3.** Variation in the rumen microbial populations of cattle, at the pre-trial sample collection time point (week 0). PCA plot with each dot-point representing the bacterial and archaeal populations present in rumen fluid collected from a single animal, coloured according to the experimental treatment group. PCA results shown on the basis of three components (A) Components 1 vs 2 (PCA comp 1-2); and (B) Components 1 vs 3 (PCA comp 1-3).



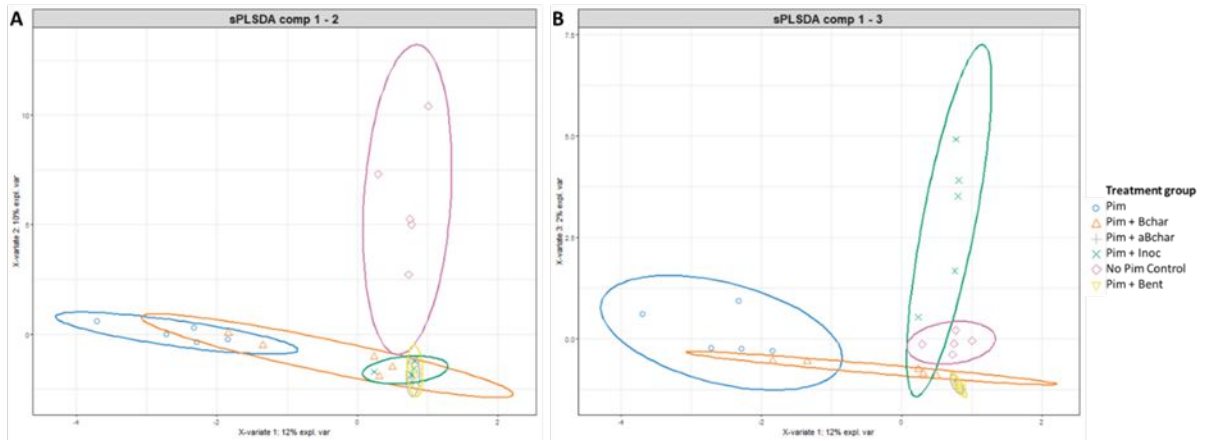
**Figure S4.** Variation in the rumen microbial populations of cattle according to each respective treatment group, at week 7 of the Pimelea feeding trial. Results from PCA, with the bacterial and archaeal populations of rumen fluid samples from each animal at coloured according to the experimental treatment group and results shown on the basis of three components (A) Components 1 vs 2 (PCA comp 1-2); and (B) Components 1 vs 3 (PCA comp 1-3).



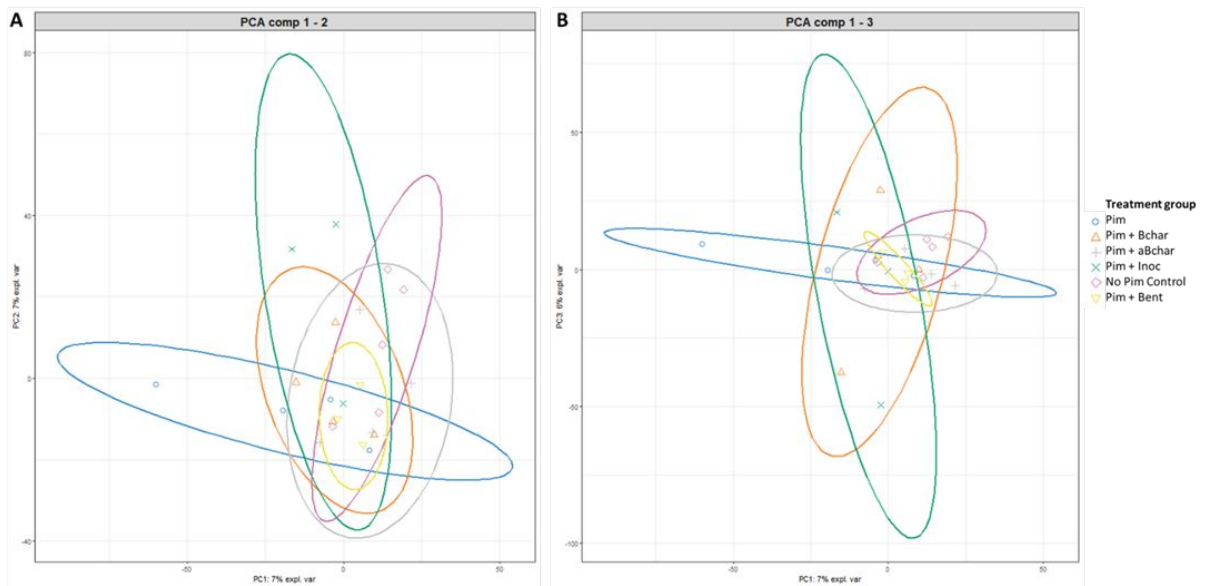
**Figure S5.** Variation in the rumen microbial populations of cattle according to each respective treatment group, at week 7 of the Pimelea feeding trial. Results from sPLSDA, with rumen fluid samples from each animal at coloured according to the experimental treatment group and results shown on the basis of three components (A) Components 1 vs 2 (sPLSDA comp 1-2); and (B) Components 1 vs 3 (sPLSDA comp 1-3).



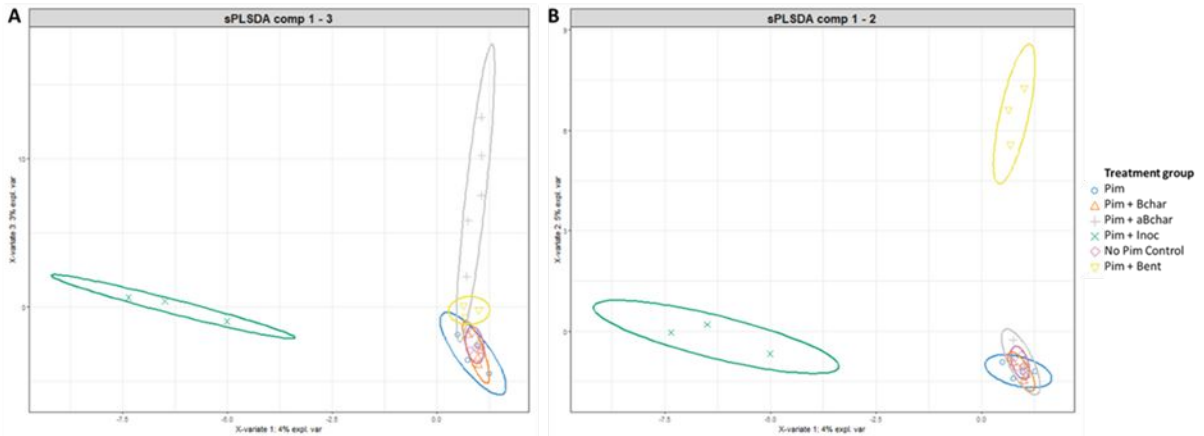
**Figure S6.** Variation in the rumen microbial populations of cattle according to each respective treatment group, at week 11 of the Pimelea feeding trial. Results of PCA rumen fluid samples collected from each animal, coloured according to the experimental treatment group. PCA results shown on the basis of three components (A) Components 1 vs 2 (PCA comp 1-2); and (B) Components 1 vs 3 (PCA comp 1-3).



**Figure S7.** Variation in the rumen microbial populations of cattle according to each respective treatment group, at week 11 of the Pimelea feeding trial. Results from sPLSDA, with rumen fluid samples from each animal at coloured according to the experimental treatment group and results shown on the basis of three components (A) Components 1 vs 2 (sPLSDA comp 1-2); and (B) Components 1 vs 3 (sPLSDA comp 1-3).



**Figure S8.** Variation in the rumen microbial populations of cattle according to each respective treatment group, at week 14 of the Pimelea feeding trial. Results of PCA rumen fluid samples collected from each animal, coloured according to the experimental treatment group. PCA results shown on the basis of three components (A) Components 1 vs 2 (PCA comp 1-2); and (B) Components 1 vs 3 (PCA comp 1-3).



**Figure S9.** Variation in the rumen microbial populations of cattle according to each respective treatment group, at week 14 of the Pimelea feeding trial. Results from sPLSDA, with rumen fluid samples from each animal at coloured according to the experimental treatment group and results shown on the basis of three components (A) Components 1 vs 2 (sPLSDA comp 1-2); and (B) Components 1 vs 3 (sPLSDA comp 1-3).