

Supplementary Material

Table S1. Feed formulation for the daily feed ratio on *in vivo* studies following AIN - 93 M standard

Components	Amount (g / kg)
Corn Starch	465
Casein (85% protein)	140
Dextrinized Corn Starch	155
Sucrose	100
Soybean Oil	40
Fibres	50
Vitamin Blend (AIN-93M) *	10
Mineral Mixture (AIN-93M) **	35
L-Cystine	1.8
Choline Bitartrate (41% Choline)	2.5
Tert-Butylhydroquinone (TBHQ)	8

* Vitamin Blend (g / kg): Nicotinic Acid 3.00; Calcium Pantothenate 1.60; Pyridoxine-HCl 0.70; Thiamine-HCl 0.60; Riboflavin 0.60; Folic acid 0.20; Biotin 0.02; Vitamin B-12 2.50; Vitamin E 15.00; Vitamin A 0.80; Vitamin D-3 0.25; Vitamin K 0.07; Powdered sucrose 974.655. ** Mineral mixture (g / kg): Calcium carbonate anhydrous 357.00; Potassium phosphate monobasic 250.00; Potassium citrate 28.00; Sodium chloride 74.0; Potassium sulphate 46.60; Magnesium oxide 24.00; Ferric citrate 6.06; Zinc carbonate 1.65; Sodium metasilicate 1.45; Manganese carbonate 0.63; Copper carbonate 0.30; Chrome alum 0.275; Boric acid 81.50 (mg / kg); Sodium sulfide 63.50 (mg / kg); Nickel (II) carbonate 31.80 (mg / kg); Lithium chloride 17.40 (mg / kg); Sodium selenite anhydrous 10.25 (mg / kg); Potassium Iodate 10.00 (mg / kg); Ammonium Paramolybdate 7.95 (mg / kg); Ammonium vanadate 6.66 (mg / kg); Powdered sucrose 209.806.

Table S2. Feed ratio composition used in the study (in g/100 g, on dry basis).

Constituent	Control	PSC	B-PSC
Ash	3.16	3.13	3.13
Fibres	10.85	15.83	16.37
Protein	6.47	6.10	6.06
Lipids	1.09	1.03	1.02
Carbohydrates	78.43	73.91	73.42

Table S3. General classes of molecules and weight from hydrophilic and lipophilic extraction obtained from nanosuspension of pinhão seed coat (PSC) and further bleach treatment (B-PSC) by GC-MS.

Class	PSC (mg/g)	B-PSC (mg/g)
Hydrophilic compounds		
Anhydrosugar	0.00	0.00
Cyclitol	0.36	0.00
Furan	0.00	0.00
Organic acid	0.15	0.01
Organic nitrogen	0.03	0.00
Phenol	1.15	0.07
Hydroxyacid	0.00	0.00
Sugar	0.06	0.08
Sugar acid	0.00	0.00
Sugar alcohol	0.12	0.02
Unknown	0.09	0.08
Aromatic	0.07	0.00
Total	2.04	0.27
Lipophilic compounds		
Carboxylic acid	0.58	0.00
Hidroxyacid	0.50	0.00
Alcohol	0.05	0.00
Sterol	0.54	0.00
Total	1.67	0.00

Table S4. Main characteristics for the pinhão seed coats while also compared to bleached (B-PSC) and unbleached (PSC) nanosuspension

Parameters	Raw pinhão seed coats	PSC	B-PSC
Fibres (g/100g)	46.1 ± 0.2	5.95 ± 0.03	6.64 ± 0.02
Moisture (g/100g)	5.0 ± 2.0	94.05 ± 0.73	93.36 ± 0.84
Ash content (g/100g)	1.5 ± 0.3	0.162 ± 0.49	0.180 ± 0.52
a _w	0.6 ± 0.1	0.997 ± 0.03	0.996 ± 0.02
SST °Brix	2.1 ± 0.4	1.33 ± 0.26	1.33 ± 0.17
pH	4.9 ± 0.2	4.44 ± 0.07	4.51 ± 0.12
ATT (mL NaOH 0,1N)	4.6 ± 0.5	4.0 ± 0.04	3.8 ± 0.02

Figure S1

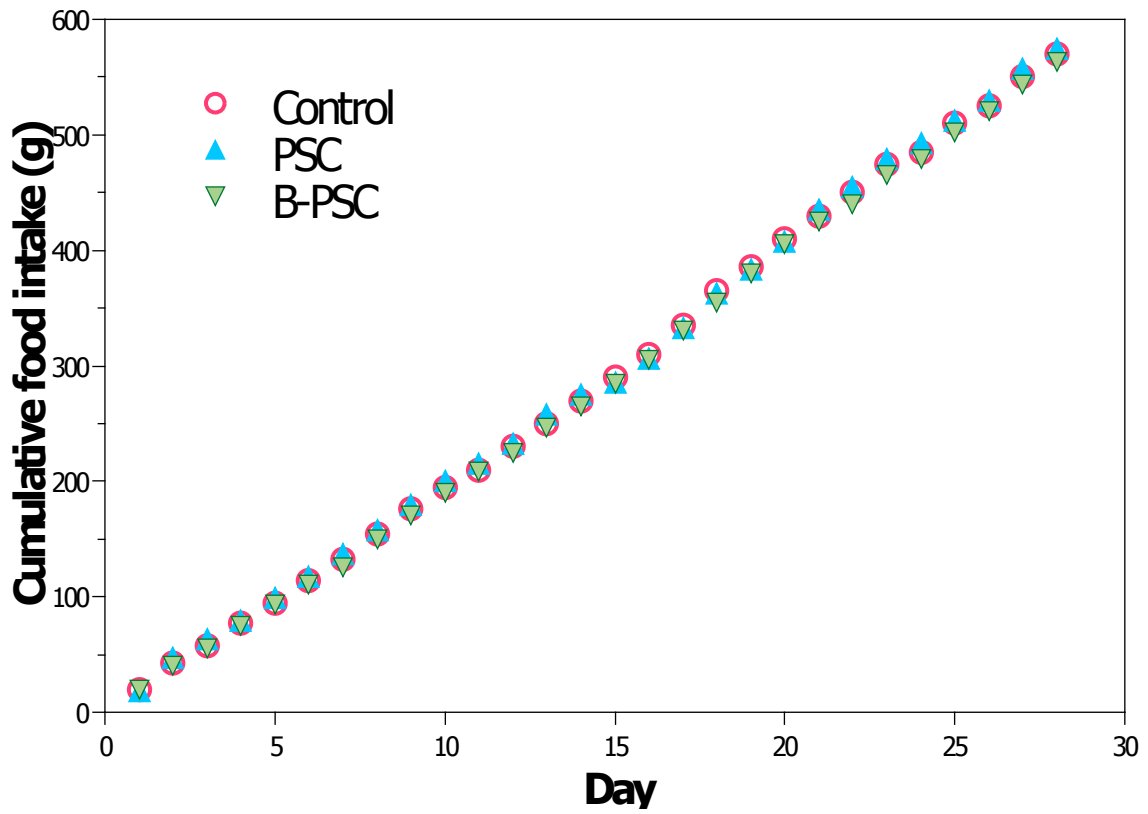


Figure S5. Cumulative food intake (mean) of control and pinhão seed coat (bleached - PSC and unbleached B-PSC) diets. No variation occurred statistically ($p > 0.05$).

Table S6 %Weight gain values

% Weight gain						
Group Name	N (count)	Mean	St. dev.			
Control	8	20	2.94			
PSC	8	10.2	1.67			
B-PSC	8	14.4	2.72			
ANOVA Table						
Source of Variation	Sum of Squares	d.f.	Variance	F	p	
Between Groups:	386.7733	2	193.3867	30.6963	0	
Within Groups:	132.3	21	6.3			
Total:	519.0733	23				
Tukey HSD Post-hoc Test...						
Control vs PSC: Diff=-9.8000, 95%CI=-12.9633 to -6.6367, p=0.0000						
Control vs B-PSC: Diff=-5.6000, 95%CI=-8.7633 to -2.4367, p=0.0006						
PSC vs B-PSC: Diff=4.2000, 95%CI=1.0367 to 7.3633, p=0.0082						

Table S7 Glucose values (mg/dl)

Group Name	N (count)	Mean	St. dev.
Control	8	13.88	6.81
PSC	8	-17.62	3.62
B-PSC	8	-20.38	13.34

ANOVA Table					
Source of Variation	Sum of Squares	d.f.	Variance	F	p
Between Groups:	5797.841	2	2898.92	36.6149	0
Within Groups:	1662.64	21	79.1733		
Total:	7460.481	23			

Tukey HSD Post-hoc Test...	
Control vs PSC:	Diff=-31.5100, 95%CI=-42.7240 to -20.2960, p=0.0000
Control vs B-PSC:	Diff=-34.2600, 95%CI=-45.4740 to -23.0460, p=0.0000
PSC vs B-PSC:	Diff=-2.7500, 95%CI=-13.9640 to 8.4640, p=0.8119