Extra Minor Corrections - From Nov 2019

	Work	Process
	When completing these corrections, the examiners strongly advise that the candidate keeps a detail lists of all of the changes made (including a clear explanation as to why any of the examiners suggestions have not been implicated) and submits this to the Internal Examiner together with the revised thesis.	OK
1	Chapters 3-7 should be combined into one chapter with appropriate subheadings. This will require a major re-write of the introduction and discussion. Considerable care should be taken in ensuring this major rewrite does not introduce any further spelling, grammatical or use of English errors and that it is appropriately formatted.	Done- combined 5 chapters in one (Chapter 3) with approval of Dr Fiona by email CC. Prof Greg & Andy Salter. Done-wrote a longer introduction p.155 approved by Prof. Greg.
2	The whole formatting of the thesis (particularly the results section) requires review. A large number of tables/figures either cross two pages or are not visible at all. All of the legends of tables and figures need careful review to ensure they are appropriate and consistent.	Done Done- The problem is in the printing! I will make sure to send a hard copy of my thesis by post.
3	Section 1.5. Please ensure statements are supported by inclusion of appropriate references.	Done section 1.5 in P.77
4	Section 1.2.1. It is entitled 'vitamins' but almost exclusively talks about vitamin C. Consider expanding consideration of other vitamins present in fruit and vegetables.	Done section 1.2.1 in P.29
5	Section 1.4. Expand this section to include further discussion of the evidence underpinning current (e.g. five a day) relating to the proposed mechanisms of action for the health benefits of fruit and vegetable consumption.	Done section 1.4.1 in P.70
6	Section 1.7.2. Further address the most critical aspect of processing with enzymes (namely the effects of nutritional value, in particular the fibre and sugar levels).	Done section 1.7.2 in P.97 And I have search again for any recent info. But just found a study about pomace. I am sure pomace is not relevant to smoothie!
7	Chapter 2: Consider a more appropriate title	Done for Chapter 2 and 3 Both titles now have an unidentifiable word in them – ASTATECH??? Done
8	2.2.1. The exclusion/inclusion criteria used in the questionnaires is still very cursory. It is stated that exclusions were made for a variety of reasons but there is no explanation of this reasoning. Why are you excluding graduated students? In a number of places you say only Health Students were recruited but in Section 2.2.2 you say the questionnaire was directed to Health and Science Faculties – which is correct? Why are chronic diseases important to exclude? Section 2.2.2 appears to indicate that 300 and 400 questionnaires were completed in UK and KSA respectively, but section 2.2.3 says only 100 from each country were analysed. Please provide more detail as to why so many were excluded from analysis as it is highly unusual to have so many uncompleted surveys?	Done P.105 In Jeddah university health or science faculties are the same. However, I have amended the mistake. I have stated in section 2.1.2 **Exclusion criteria** that I canceled some of the questionnaires that included more than 10 questions not answered This is not an exclusion criterion from the study as this was done after the study was completed. The exclusion of questionnaires and the reasons why should be addressed at the beginning of the results section. It still appears to me a very strange co-incidence that only exactly 100 questionnaires from

		each country were completed appropriately? They were uncompleted maybe because the survey was too long for the students and their time is limited. I don't know what you mean by this. I have now changed the sentence of 400. It was a conflict; I have published in Nott. Uni. by myself more than 300 questionnaires but only around 101 was fully answered. The same happened in Monkey Survey; I have received more than 100 answered once but only 100 was fully answered.
9	2.2.4. Statistical methods employed still lack detail, for example section 2.2.4 states the data was non-parametric but there is no indication of how this conclusion was reached. Whilst the statistical methods employed in the questionnaire have been improved, there is scant indication of any statistical consideration being given to the analytical methods being employed. A number of bar charts (e.g. Figure 2.2) include error bars – but know explanation as to what these actually represent? Other figure (e.g. 2.19) do not have such error bars?	Since following investigation, the data was found normally distributed-none parametric state. How was it decided if the data was parametric or non-parametric? The statement above is contradictory. Was it parametric or non-parametric? I have deleted all the error bars from all of the figures These must be removed. I have removed them all.
10	Is it possible to indicate if samples vary significantly in their nutritional and physical properties? If not why not?	I am not sure this comment related to what? When you compare values between types of smoothy or time of year why have you not done a statisitical analysis. For example, Figure 3.5. Could you have done a 2-way analysis of variance with type of smoothie (Beetroot, Red Pepper, Strawberry, Orange) as one factor and season (Winter, spring, summer, autumn) as the other. If not why not? Statistical analysis is not appropriate. The seasonal analysis was only carried out once on a pooled sample. Smoothie comparison involved a single representative sample for each commercial smoothie. A more in depth investigation in both cases was outside the scope of this thesis and would require a significantly greater number of samples to be relevant given the highly variable nature of the raw material.
11	2.4.2.1. Information on ensuring homogeneity of the sample is still very cursory. What was the setting used on the mixer (did it have different speed settings) was the assessment of homogeneity done purely visually? A little more detail is required. Additionally, this method is only attributed to sample 901. What was the method used for the other five samples trialled (table 2.4)?	Done now is in section 2.3.2.1 in P.137 I can remember there was two speeds on the Kenwood mixer, I used the highest one. I used the same process for all smoothies.

12	Figures 3.1 is still missing error bars, the equation of the line of best fir and the R2 value.	The results were obtained from the plate reader directly and no R2 or equation was recorded. I am afraid I do not have this data The plate-reader should supply you with a spread sheet of the data that you could put into Excel and give you a range for your duplicate values, an equation for the line and a r2 value. Indeed, the figure presented looks like it is an Excel graph? If you do not have this data, you will have to ignore this comment
13	Figure 3.2 still shows a linear line of best fit despite the data not being linear and there is no scale on the x or y-axis. Looking at the data points for this curve it would appear that the highest concentration of Gallic acid is outside the linear range of the instrument used. Plotting a line of best fit using the other points and then diluting samples before analysis to ensure they stayed within the linear range of the instrument would have been a better approach. Comment is required on this point in the discussion.	Done Figure 3.2 in P.167 has been replaced. The original was an error. Please ensure this figure is appropriately presented. Note that this is giving you the r2 value (see above)
14	Sections 7.6 & 7.7. It was suggested by the examination team that the issue of commercial potential of these products should be addressed including the use of enzymes to reduce viscosity. This has been attempted but is still missing a fundamental point i.e. does the enzyme activity change the nutritional composition of the product (i.e. reduction in fibre)?	Adjusted in section 3.24 conclusion rheological analysis of smoothies and effect of enzymes and Added in section 4.2 future work P.252
15	It is stated that a pectinase mix was used that is inedible and yet no further explanation of this is given. Why use an enzyme cocktail that cannot be consumed? Is it just that the enzyme would require inactivation before consumption?	Added in section 3.24 conclusion rheological analysis of smoothies and effect of enzymes. The two enzyme cocktails used were those available in the laboratory at the time. They were being used for a biofuel project and were not food grade. The comment on not being consumable related to the smoothies produced in this study and why they could not be consumer tested. Similar cocktails that are food grade are available commercially. Comments to this effect have been added to the text.
16	The whole thesis requires considerable review and correction in terms of spelling, grammar and use of English. Every section needs careful review (e.g. the words TABLES and FIGURES are spelt wrongly in the List of Tables/Figures)	Done I am still finding serious errors in the thesis (including the titles of Chapters 2 and 3) and these must be addressed! This was regarded as a very serious problem by both examiners. It has been adjusted.