

CAN THO UNIVERSITY
INSTITUTE OF FOOD AND BIOTECHNOLOGY



STUDENT'S FULL NAME
STUDENT ID

THESIS TITLE (In English)
(Thesis title in Vietnamese)

UNDERGRADUATE THESIS
PROGRAMME

CAN THO UNIVERSITY
INSTITUTE OF FOOD AND BIOTECHNOLOGY



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THESIS TITLE (In English)

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SUPERVISOR

NGUYEN THI A

2023

ACKNOWLEDGEMENT

Thank the agencies and individuals for sponsoring the research (thesis), or providing financial/technical support to the author; thanks to colleagues who helped with the research, but did not qualify for the author's name; thanks to the research subjects who participated;...

THIS IS THE OFFICIAL FORMAT WHICH HAS ALREADY BEEN FORMALIZED, IT JUST NEEDS TO ADD YOUR CONTENT.

The following part is the instruction, this page should be removed when you print your thesis.

The thesis must have the same font style and size at all. The required font is Times New Roman and font size 13. Subsections are bold. Notes for tables and figures are in font size 10. The font and number size in tables is 12, in special cases it may be 11.

Page margins must be consistent throughout the thesis, the left margin is 4 cm, the remaining margins (right, top, bottom) are 2.5 cm. Distance (tab) is 1.0 cm. Header and footer are 1.0 cm.

The thesis must be presented with 1.2 line spacing (line spacing = 1.2). However, in the following cases, the line spacing is 1 (line spacing = 1) as: reference; tables and figures; Appendix; notes for tables, figures...

Between the subsection and the paragraphs above, keep the line spacing 6 pt (do the command paragraph spacing before 6 pt and after 0 pt). In the case of listing many consecutive lines, there is no need to separate them, ie spacing before 0 pt and after 0 pt (still keeping line spacing 1,2).

Spacing (indentation) for numbered subsections and paragraphs; indent is 1.0 cm (tab = 1.0 cm). In case there are smaller sub-sections that are not numbered but use the letters a, b, c..., they are also indented and bolded like numbered sub-sections. If the subsection is at the bottom of the page, move to the next page.

After the sections and subsections there is NO period (.) or colon (:)

The punctuation marks (comma (,), period (.), colon (:), semicolon (;)... must be adjacent to the last word but 1 space bar from the next word. or a phrase enclosed in brackets, the brackets must be adjacent to the first word and the last word, for example (apple).

ABSTRACT

It should be about 200-350 words for the thesis, the abstract presents a paragraph with 4 main contents (i) introduction of the research topic and research objectives; (ii) describe the main methods of the research; (iii) a summary of the research results obtained and the main observations; and (iv) main conclusions and recommendations (if any). In the abstract of the thesis should avoid including tables or figures and do NOT cite references.

***Keywords:** 3-5 simple words that are related to the content of the thesis and are repeated many times in the thesis.*

ABSTRACT (In Vietnamese)

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PLEDGE

I hereby declare that this thesis is completed based on the results of my research (funded by Topic/Project A-if any) and that these results have not been used for any other thesis of the same level. (Project A has the right to use these results to serve the project-if any).

Can Tho, date (dd/mm/2023)

Supervisor

Student

TABLE OF CONTENT

The auto-generated table of contents lists the article's sections and subsections in sequence with the corresponding page numbers. Present up to the 2nd subsection excluding the chapter subsection (e.g subsection 2.2.3).

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LIST OF TABLE

The list of Tables and Figures in the thesis should be automatically generated using Word's Reference\Insert caption function.

List the exact names of the tables in the article and the corresponding page numbers. Once writing in the thesis, the word “Table” must be capitalized (for example, As can be seen from the Table 2.1). The first number in the table name is the chapter number, the second number is the ordinal number of the table in that chapter (Example: Table 2.1 belongs to chapter 2 and is the first table in chapter 2).

An example of the list of table:

Table 2.1:	page
Table 2.2:	page

LIST OF FIGURE

List the exact names of the figures in the article and the corresponding page numbers (note that only the term Figure is used in all cases of drawings, photographs, diagrams, graphs, charts, etc.). Once writing in the thesis, the word “Figure” must be capitalized. The picture names are numbered in the same order as the table names (with the first number in the picture name being the chapter number, the second number being the figure number in that chapter).

An example of the list of figure:

Figure 2.1:page
Figure 2.2:page

LIST OF NOTATIONS

List of symbols

$\Delta\kappa$	compressibility factor ($\text{cm}^6 \text{J}^{-1} \text{mol}^{-1}$)
ΔS_o	entropy change ($\text{J mol}^{-1} \text{K}^{-1}$)
ΔG	free-energy change (J mol^{-1})
ΔC_p	heat capacity ($\text{J mol}^{-1} \text{K}^{-1}$)

List of abbreviations

AG	arabinogalactan
Corr R ²	corrected R ² , correlation coefficient
CHCA	α -cyano-4-hydroxycinnamic acid
DE	degree of esterification of pectin

Chapter 1. INTRODUCTION

1.1 Problem statement

Introduce the research topic of the thesis/dissertation to clarify the importance and significance of the topic. The content includes the context, poses the hypotheses/problems and the aims that the research will achieve. In this part, it should be divided into sub-sections such as research objectives, hypothesis (if any), research content, research limitations (if necessary). 1 A4 page.

1.2 Research objectives

Provide the aims of your study.

1.3 Research contents

Provide shortly the main contents that your thesis tends to conduct.

Chapter 2. LITERATURE REVIEW

This part is very important, the content must be an overview of documents related to the topic of the thesis to serve as a basis for the design of the research contents and experiments. References should be up-to-date, written in an analytical and synthetic method, not as a summary of research findings from references.

EXAMPLE

2.1 Content 1

2.1.1 Subcontent 1

For scientific names, it has to be italicized, not underlined; Do not capitalize after the colon if you only want to clarify the meaning, in case of a sentence, capitalize the first letter. Proper nouns that are compound words must be capitalized for both words (for example, Can Tho, Vinh Long...) and words that indicate a region or geographical location are also capitalized (for example, North, East, ...)

2.1.2 Subcontent 2

Math formulas or chemical formulas are marked in chapter order, with font size 12. Marked position on the right side of the page. For example, the first formula in chapter 2 is numbered 2.1 without taking into account the formula in any subsection of the chapter.

The unit of measurement must be used according to the following principles and consistent throughout the thesis:

- 1 litre (1 L) (capitalized)
- 20 kilogram (20 kg)
- 2,5 hectare (2,5 ha)
- 45 part per thousand (45 ppm)

...

The number that comes with the unit of measure, write the number followed by the unit of measure (eg 5 L, 5 kg...). If the number is at the beginning of the sentence, the number must be written (for example: Fifty people...). Where number refers to a series of numbers, write in numbers (for example, 4 treatments or 10 samples (do not write four or ten)...

Decimals must use a comma (eg 3.25 kg) and numbers in the thousands and above use a period (eg 1,230 m). The principle of rounding (i) is based on the number of decimals that the test instrument can weigh/measure, if the instrument measures 3 decimals, the decimal number used should not exceed 3; (ii) the whole 1% rounding abbreviation can be used, i.e. if the integer part is only units (ie 1-9), use 2 decimal places (eg 3.25 kg – 3 is single row). you use two decimal places, 25); if the integer is tens (ie 10-99), then use 1 decimal (eg: 12.5 cm); and if the integer is hundreds or more (≥ 100 , do not use decimals (eg: 102 cm) The use of decimals must be consistent throughout the thesis.

2.2 Content 2

2.2.1 ...

2.2.1.1 ...

2.2.1.2 ...

2.2.1.3 ...

2.2.2 ...

2.2.2.1 ...

2.2.2.2 ...

2.2.2.3 ...

2.2.3 ...

...

2.X Overview of national and international achievements in related topics ... (X is the next section of the content mentioned in the previous part)

The purpose of this section is to:

- Synthesize knowledge of existing research in published books and journals as well as other types of publications relevant to current research
- Outline the basic concepts of the research theory, including the referenced specific research methods
- Discuss the strengths and weaknesses of published studies
- Identify research gaps and inefficiencies in previous studies
- Develop ideas and hypotheses for current research

Therefore, in this section, students mainly refer to the experimental layout method and briefly summarize the obtained results of previous related studies to the research to be carried out as a basis for the design. experiment in chapter 3, discuss, compare/explain the results later in chapter 4.

Chapter 3. MATERIALS AND METHODS

This chapter must describe in detail the methods, techniques and main specimens, materials, equipment, etc. used in the research. It can be written according to each research content of the thesis. Describe in detail the experimental implementation, the collected data and the method of collection, the method of analysis of these samples, the method of data statistical analysis, etc.

In the case of an investigation (survey), it is necessary to clarify the number of samples to be investigated, how to select samples, structure of questionnaires, methods of data analysis, etc. (Note: the questionnaire used in the research should be included in the appendix). green).

3.1 Study sites and duration

Study sites: (functional) Laboratories at the Institute of Food and Biotechnology, Can Tho University.

Duration: From month, year to month, year.

3.2 Samples

Describe the origins, features of the samples that you use in your thesis.

3.3 Materials

3.3.1 Chemicals, reagents, media

List the chemicals, some kinds of media that you used, including the brands and producers.

Example:

Chlorine dioxide (Company, Country produced)

NaCl (Merck, Germany produced)

Plate Count Agar (HiMedia, India produced)

3.3.2 Consumables and Equipments

List the names of tools, consumables and equipment (seril number of the equipment, producers)

3.4 Research methods

3.4.1 Protocol

The experimental procedure is shown in Figure 3.X (IF YES, where X is the figure order of the chapter):

3.4.2 Implementation/Process

Generally describe the experimental implementation in the thesis.

3.5 Research Design

3.5.1 Experiment 1: ...

a. Experimental purpose

...

b. Experimental design

Example of a two-factor experimental establishment:

This experiment is set up randomly with 2 factors:

Factor A: Concentration (ppm)

A₁: 25 A₂: 50 A₃: 100

Factor B: Time (minutes)

B₁: 1 B₂: 3 B₃: 5

The number of treatments: $3 \times 3 = 9$ treatments, each treatment is triply repeated.

The total of experimental units: $9 \times 3 = 27$

c. Experimental protocol/process

General description of the experimental procedure. Sample unit weight, analysis time...

d. Analytical criteria/measurements

List the criteria/parameters that will be analyzed in the experiments:

- The colony/coliform forming units (log, CFU/mL)
- Colors (L, a, b)
- pH

3.5.2 Experiment 2: ...

a. Experimental purpose

b. Experimental design

c. Experimental protocol/process

d. Analytical criteria/measurements

3.6 Data Analysis

Example:

The data are collected and statistically analyzed through ANOVA analysis of variance from Statgraphics Centurion 16.1 program to check the significant difference between treatments through LSD (Least Significant Difference); Data are calculated, presented as mean \pm standard deviation and presented in the form of graph from Microsoft Excel 2019.

Chapter 4. RESULTS AND DISCUSSION

This chapter presents in detail the results of the study by using data tables, figures, descriptions (text), using statistics to evaluate the results... so that the main results of the study are highlighted.

This chapter can be written in two forms (i) presenting the results and general discussion or (ii) separating the results and discussion separately.

The writer (Student) chooses the relevant writing style which is suitable to your ability as well as the characteristics of the research results. In particular, writing (i) is preferred in the presentation of the thesis.

4.1 Result 1

4.1.1 ...

The data of table must be presented in Arabic numerals. Figures include tables, graphs, diagrams, photographs (photos), drawings from computers... Tables and figures must be numbered in chapter order (for example, tables/pictures of chapter 1 are numbered 1.1 or 1.2. ... or of chapter 2, number 2.1 or 2.2). The names of the tables/figures must be listed in the list of tables/figures at the top. The table/picture must be placed immediately after the description (text) about the table/picture. Do not place tables/figures immediately after sections or subsections. The table name must be placed above the table with the left margin. The image name is placed under the image and in the middle of the line (center); Do not bold or italicize table and figure names. Table and figure names must be meaningful enough to fully represent the content of tables and figures (avoid using general names like the results of experiment 1 or 2...).

The table must present the data shortly and clearly, avoiding too much data that makes the table complicated and confusing. Choose the appropriate presentation to highlight the content or meaning of the table. Do not draw vertical lines for columns and horizontal lines for each row except the header and last row of the table. Data columns should be aligned (including column headers) to the right. Statistical significance notes (a, b, c...) can be placed after the mean or after the standard deviation or standard error but must be consistent throughout the thesis and placed above the exponent (superscript). There is no space bar between the mean “±” and the deviation (eg 34.5±2.34 rather than write 34.5±2.34).

Notes (legends) on figures and table titles should avoid abbreviations that cause confusion for the reader. For example, NT1 (meaning treatment 1), it is best to specify the name of that treatment?; if treatment 1 is the concentration of the experimental chemical is 5 mg/L, it should be recorded directly as 5 mg/L. In case the long treatment name cannot be detailed, a note must be attached, which can be the end of the table or the end of the name of the image, with font size 10 (the image should be in line with text mode to avoid running).

When presenting the figure, it should be noted that the line shape to show the continuous trend is the correlation between the x (horizontal) and y (vertical) values; column format (bar) represents data that is not correlated but for comparison; combined form (line and column) to represent trends (correlation); in the form of points (scatter) to represent distributive data; and pie (pie) to represent the percentage (%). Do not use an outline for the image.

Table 4.1 or Figure 4.1 should show the relationship of the results obtained from the study to the hypothesis posed for the study. Discuss and clarify the main results, their meanings and related issues; Use references to interpret research results. The article must create the connection of research results with content, content with objectives, and objectives with research name (topic).

Bảng 4.1: Effects of concentration and washed time with the Chlorine Dioxide solution on the color differences (ΔE)

Concentration (ppm)	Time (mins)			Average
	1	3	5	
0	0.95±0.1	0.95±0.01	0.95±0.1	0.95±0.1 ^a
25	1.18±0.2	1.18±0.04	1.24±0.1	1.20±0.1 ^{ab}
50	1.05±0.33	1.37±0.10	2.18±0.1	1.53±0.1 ^c
100	1.26±0.45	1.50±0.11	1.26±0.1	1.35±0.1 ^b
Average	1.11±0.2 ^a	1.25±0.1 ^b	1.40±0.1 ^c	

Notes: The data expressed in the table is the average of 3 repeats. The average value has same corresponding letter a, b, c in the same row and column does not have significant difference in statistics at 5%.

4.1.2 ...

4.1.3 ...

The results shown in Figure 4. X proved that:

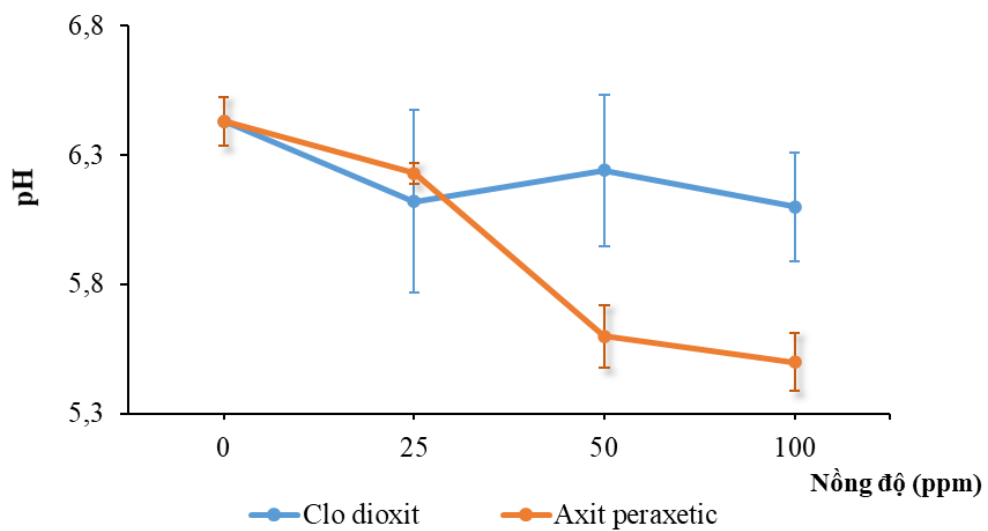


Figure 4.X: pH changes of spinach washed with antiseptic

4.2 Result 2

4.3 Result 3

....

Chapter 5. CONCLUSIONS AND SUGGESTION

5.1 Conclusions

Based on the main findings of the study to draw conclusions in relation to the purpose of the study and not to explain.

5.2 Suggestion

Recommendations for further studies (if any). Note that when writing a proposal, it must be related to the topic of the thesis.

In-text and reference list citations

APA (American Psychological Association) style is suggested for in-text and reference list citations. APA format citation guide:

+ In-text citation

These citations include the surname of the author and date of publication only.

One author	Stein (2018) studied on... ...revealed that... (Smith, 2017).
Two authors	...displayed the symptoms of the disease (Tang & Parker, 2015). Reynolds and Thomas (2014) write that there is...
Three or more authors	Gloster et al. (2010) studied... ... (Gloster et al., 2010).
Group as author	First citation: (American Psychological Association [APA], 2015) Subsequent citation: (APA, 2015) World Health Organization (WHO, 2013) found that... WHO (2013) found that...
Same author, multiple works	The results showed that... (Brown, 1982, 1988).
Multiple works	(Mitchell and Smith 2017; Thomson <i>et al.</i> , 2015)
Cited from the second source	Lorde (1980, as cited in Mitchell, 2017) stated that... (Lorde, 1980, as cited in Mitchell, 2017) In references, Mitchell (2017) is listed.
Quotation	Webber (2018, p. 82) concludes that “addressing the issue of school dropout not only affects the education system, but may also serve as a prevention effort for the welfare, mental health, and corrections systems”. Others have contradicted this view, suggesting: These overload issues can reach across the lifespan and affect individuals in many ways. As related issues continue to emerge, counselors will need to be aware of potential mental health problems stemming from technology overload and continue to research and develop the skills needed for effective interventions. In the digital age, these capabilities will be crucial in helping clients regain and maintain a healthy balance of life, work, and technology. (Scott, Valley & Simecka, 2017, p. 605)

+ Reference list:

- Be alphabetically by name of first author (or title if the author isn't known, in this case a, an and the should be ignored)
- If there are multiple works by the same author these are ordered by date, if the works are in the same year they are ordered alphabetically by the title and are allocated a letter (a, b, c. etc.) after the date
- Contain full references for all in-text references used

- The list of references should only include works that are cited in the text and have been published or accepted for publication.
- Do not use footnotes as a substitute for the reference list.
- Arrange entries in alphabetical order by the last name of the (first) author
- References from the same author in the same year must be identified by the letters “a”, “b”, “c”, etc. placed after the year of publication.
- List all authors, add “and” before the last one.

Book	Author’s surname, Initial(s). (Year). <i>Title</i> (ed.). Publisher location: Publisher Ex: Mitchell, J.A., Thomson, M., & Coyne, R.P. (2017). <i>A guide to citation</i> . London, England: My Publisher Jones, A.F & Wang, L. (2011). <i>Spectacular creatures: The Amazon rainforest</i> (2nd ed.). San Jose, Costa Rica: My Publisher
Edited book	Author’s surname, Initial(s). (Ed(s)). (Year). <i>Title</i> (ed.). Place: Publisher Ex: Williams, S.T. (Ed.). (2015). <i>Referencing: A guide to citation rules</i> (3rd ed.). New York, NY: My Publisher
Book chapter	Chapter author’s surname, Initial(s). (Year). Chapter title. In editor’s initial(s), surname (Ed.). <i>Title</i> (ed., chapter’s page range). Location: Publisher Ex: Troy, B.N. (2015). APA citation rules. In S.T, Williams (Ed.). <i>A guide to citation rules</i> (2nd ed., pp. 50-95). New York, NY: Publishers.
E-book	Author surname, initial(s) (Ed(s).*). (Year). <i>Title</i> (ed.*). Retrieved from URL * is optional.
E-book chapter	Last name of the chapter author, initial(s). (Year). Chapter title. In editor initial(s), surname (Ed.). <i>Title</i> (ed., pp.chapter page range). Retrieved from URL Ex: Troy, B.N. (2015). APA citation rules. In S.T, Williams (Ed.). <i>A guide to citation rules</i> (2nd ed., pp. 50-95). Retrieved from https://www.mendeley.com/reference-management/reference-manager
Journal Articles	Author surname, initial(s). (Year). Article. Journal, volume(issue), page range. DOI or Retrieved from URL Ex: Flórez, M., Carbonell, M. V., & Martínez, E. (2007). Exposure of maize seeds to stationary magnetic fields: Effects on germination and early growth. <i>Environmental and experimental botany</i> , 59(1), 68-75. Mitchell, J.A. (2017). Citation: Why is it so important. <i>Mendeley Journal</i> , 67(2), 81-95. Retrieved from https://www.mendeley.com/reference-management/reference-manager
Newspaper Articles	Author surname, initial(s). (Year, Month Day). Title. <i>Title of Newspaper</i> , column/section, p. or pp. Retrieved from URL* Ex: Mitchell, J.A. (2017). Changes to citation formats shake the research world. <i>The Mendeley Telegraph</i> , Research News, pp.9. Retrieved from https://www.mendeley.com/reference-management/reference-manager
Magazine	Author surname, initial(s). (Year, month day). Title. <i>Title of the</i>

Articles	Magazine, pp. Mitchell, J.A. (2017). How citation changed the research world. <i>The Mendeley</i> , pp. 26-28
Website	Author surname, initial(s). (Year, month day). <i>Title</i> . Retrieved from URL Mitchell, J.A. (2017, May 21). <i>How and when to reference</i> . Retrieved from https://www.howandwhentoreference.com .
Conference proceedings	Editor, A., & Editor, B. (Eds.). (Year). <i>Title of conference: Subtitle of conference, Location, Date</i> . Place of publication: Name of Publisher Ex: Bickman, L., & Ellis, H. (Eds.). (1990). <i>Preparing psychologists for the 21st century: Proceedings of the National Conference on Graduate Education in Psychology, University of Utah, 1988</i> . Hillsdale, NJ: L. Erlbaum.
Conference paper in print proceedings	Author of Paper, A., & Author of Paper, B. (Year, Month date). Title of paper. In A. Editor, B. Editor, & C. Editor. <i>Title of Published Proceedings</i> . Paper presented at Title of Conference: Subtitle of Conference, Location (inclusive page numbers). Place of publication: Publisher.

APPENDICES

Put immediately after the references section. Appendix is a detailed presentation of analytical methods, raw/original data, statistical processing tables, drawings, photographs, data tables that are not important to be included in the article or table. questions... They can be grouped into large thematic appendices. Example Appendix A: questionnaire...; Appendix B: raw data/original data... In this case, number A.1, A.2... or B.1, B.2...