

- All references cited in the text are to be listed at the end of the report. The manuscript should be carefully checked to ensure that the spellings of authors' names and publication years are exactly the same in the text as in the reference list. Do not type author's and editor's names in capitals.
- The indication "*et al.*" that is used in the text (see previous section) should never be used in the list of references. In this list names of authors and all co-authors must be given in full.
- The list of references should be arranged alphabetically by authors' names, and chronologically per author. If an author's name in the list is also mentioned with co-authors, the following order should be used: (1) publications of the single author, arranged according to publication year (2) publications of the same author with one co-author, arranged according to publication year

The following system can be used for arranging references:

**a. Journal papers:** Names and initials of all authors, year. Title of paper. Journal name (given in full or abbreviated using the International List of Periodical Title Word Abbreviations), volume number (issue number): first and last page numbers of the paper.

Example: Elbaz-Poulichet, F., Guan, D.M. and J.M. Martin, 1991. Trace metal behaviour in a highly stratified Mediterranean estuary: the Krka (Yugoslavia). *Marine Chemistry*, 32: 211-224.

**b. Monographs:** Names and initials of all authors, year. Title of the monograph. Publisher, location of publisher, total number of pages.

Example: Zhdanov, M.S. and G.V. Keller, 1994. *The Geoelectrical Methods in Geophysical Exploration*. Elsevier, Amsterdam, 346 pp.

**c. Edited volume papers:** Names and initials of all authors, year. Title of paper. Names and initials of the volume editors, title of the edited volume. Publisher, location of publisher, first and last page numbers of the paper.

Example: Thomas, E., 1992. Middle Eocene-late Oligocene bathyal benthic foraminifera (Weddell Sea): faunal changes and implications for ocean circulation. In: D.R. Prothero and W.A. Berggren (Editors), *Eocene-Oligocene Climatic and Biotic Evolution*. Princeton University Press, Princeton, New York, USA, pp. 245-271.

**d. Conference proceedings papers:** Names and initials of all authors, year. Title of paper. Name of the conference. Publisher, location of publisher, first and last page numbers of the paper.

Example: Smith, M.W., 1988. The significance of climatic change for the permafrost environment. *Final Proceedings of the International Conference on Permafrost*. Tapir, Trondheim, Norway, pp. 18-23.

**e. Unpublished reports, theses etc.:** Names and initials of all authors, year. Title of item. All other relevant information needed to identify the item (e.g., technical report, Ph.D. thesis, institute, etc.).

Example: Moustakas, N., 1990. Relationships of morphological and physicochemical properties of Vertisols under Greek climate conditions. Ph.D. Thesis, Agricultural University of Athens, Athens, Greece. 241 pp.

Example 2: Maniatis, D., 2005. Retrospective study of the mangroves of the Tanbi Wetland Complex, The Gambia. MSc. Environmental Science and Technology thesis, Vrije Universiteit Brussel, Brussels, Belgium. 124 pp.

f. In the case of publications in any **language other than English**, the original title is to be retained and the translation in English can be put between straight brackets (*i.e.* []). Titles of publications in non-Latin alphabets should be transliterated, and a note such as '(in Russian)' or '(in Japanese, with English

Abstr.)' should be added at the end of the reference.

**g. Computer programs:** Author(s) (if available). Date of publication. Title. Type of Medium. Version. Place of publication: publisher. Physical description. Accompanying material. Notes (system requirements).

Example: ERDAS IMAGINE Professional Software. Version 8.6. Leica Geosystems, GIS & Mapping, Atlanta, Georgia, USA. URL <http://www.gis.leica-geosystems.com>.

Example 2: McGarigal, K., Cushman, S.A., Neel, M.C. and E. Ene. 2002. FRAGSTATS: Spatial Pattern Analysis Program for Categorical Maps. Computer software program produced by the authors at the University of Massachusetts, Amherst. Available at the following web site: [www.umass.edu/landeco/research/fragstats/fragstats.html](http://www.umass.edu/landeco/research/fragstats/fragstats.html)

**h. CD-ROM:** Author(s). Date of publication. Title. Type of medium. Version. Place of Publication: publisher. Physical description. Notes (system requirements).

Example: Holthuis, L.B., 1996. Marine Lobsters of the world. World biodiversity database CD-ROM Series. Windows Version 1.0. New York: ETI/FAO, Springer-Verlag. 1 CD-ROM. IBM compatible PC, 80486 processor, 8MB RAM, Windows 3.1. or 95, VGA colour Monitor, Soundblaster or compatible sound card.

**i. Webpages:** Title of the root page. Internet address. Short description of contents (e.g. list of databases). Date latest access (day, month, year). Date latest update (day, month, year). Publisher.

Example: VLIZ, Vlaams Instituut voor de Zee vzw/Flanders Marine Institute. URL: <http://www.vliz.be>. General information on VLIZ, activities, databases, links. Latest access: 3 June 2007. Latest update: 31 May 2007. Publisher: Vlaams Instituut voor de Zee vzw/Flanders Marine Institute, Oostende, Belgium.

To help you compile a list of references you can use citation software such as EndNote.

### **3.10 Appendix/Appendices**

The Appendix contains related materials/data that provide additional information but are not essential for understanding the thesis/report. E.g. tables with raw data, intermediate statistical results, figures, photos.

Common for a thesis, but scientific articles rarely have an appendix.

Give only appendices if necessary, not to increase the number of pages of your thesis. In fact, you should not paginate your appendices!

## **4 Accessories to the text**

### **4.1 Tables**

Tables can be used for various kinds of information:

- To show precise numerical values
- to summarize or emphasize verbal information in compact form
- to organize numerical data in an easy and understandable way

A table should be:

- clear and easy to read
- understandable on its own
- orderly and logically organized

- in agreement with the rest of the text (*i.e.* use the same units/symbols etc. as in the text)

Tables consist of 6 major parts (see Figure 1):

1. Caption above the table with the table number and the title
  - the title of each table should be unique
  - without a full stop at the end
2. Column heads
  - Each column must have a heading, describing the content of the column, followed by the unit between brackets, if appropriate and first letter capitalized (e.g. "Temperature (°C)")
  - Columns are used to display the dependant variables
  - To save horizontal space, headings should make use of abbreviations, symbols and other short forms (that are explained in the footnotes)
3. Spanners to gather common elements of adjacent column heads
  - If the units of adjacent columns are the same, put these in the spanner
  - A spanner never covers the stub column
4. Stub
  - contains the row heads, each starting with a capital letter
  - often represent the independent variables (e.g. information on experimental conditions)
5. Fields
  - Contain the data
  - Data must be aligned with its column heading
  - Numbers are aligned on the **decimal point** (do: 2.19 but don't do: 2,19) and numbers in the same column carry the same number of decimals
  - If the numbers contain  $\pm$  (e.g.  $96.6 \pm 1.2$ ), align on the  $\pm$  sign
  - Empty cells in the field are indicated with a dash (-) or ND (no data, not detectable or not determined, then, explain the abbreviation in a footnote)
6. Footnotes
  - To explain symbols, abbreviations used in the table
  - Give the source of the data
  - Use superscript lower case letters to direct the reader to the appropriate footnote

Table nr Typical table title is short without ending punctuation [rule]

Stub head	Spanner head			Spanner head		
	Col head	Col head	Col head	Col head	Col head	Col head
[stub]	[field]					
Row head	[column]	[column]	[column]	[column]	[column]	[column]
Row subhead	xxx	xxx	xxx	xxx	xxx	xxx
Row subhead	xxx	xxx	xxx	xxx	xxx	xxx
Row subhead	xxx	xxx	xxx	xxx	xxx	xxx
Row subhead	xxx	xxx	xxx	xxx	xxx	xxx
Row head	[field]					
Row subhead	xxx	xxx	xxx	xxx	xxx	xxx
Row subhead	xxx	xxx	xxx	xxx	xxx	xxx
Row subhead	xxx	xxx	xxx	xxx	xxx	xxx
Total	xxx	xxx	xxx	xxx	xxx	xxx

<sup>a</sup> [footnote] Source: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx. [period]  
<sup>b</sup> [footnote] xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx. [period]  
<sup>c</sup> [footnote] xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx. [period]

**Figure 1. Major parts of a table (Source: Scientific Style and Format. The CBE Manual for Authors, Editors and Publishers, 1994. The Council of Biology Editors, 6<sup>th</sup> Edition, 825 pp.)**

Some tips:

- 3 full width horizontal lines: (1) to separate the caption from the table, (2) to separate the headings from the fields and (3) to separate the table from the footnotes
- The use vertical lines is not recommended
- Try to fit a table on 1 page (you can change the page orientation), if it doesn't work out, continue on the next page and give as caption: "Table 2. Continued" (without title) and repeat the column headings
- Center your tables on the page
- Tables should be put as closely as possible after being referred to in the text for the first time
- A table should be introduced to the reader in one or two sentences and the data should be discussed (call attention to the main points)

Example 1 (completely fictive data):

**Table 2. Percentage survival of different organisms undergoing different salinity and temperature treatments**

Organism	Treatments							
	Salinity (ppt)				Temperature (°C)			
	20	30	40	50	15	20	25	30
<i>Asterias rubens</i>	70.6	80.9	95.6	20.4	45.8	90.4	44.6	21.6
<i>Actinia acticans</i>	60.7	ND <sup>a</sup>	50.2	33.9	67.9	23.4	24.5	80.6
<i>Rubella vulgaris</i>	59.7	29.4	89.3	99.5	22.4	90.2	32.7	78.5

<sup>a</sup>Not Determined.

Example 2:

Table xx Measured and calculated values of KA series samples				
Sample	Temperature (°C)	L	FC index (dyn/cm <sup>2</sup> )	W <sup>a</sup>
KA-100	20	2.17	3.472	0.86
KA-100	40	3.53	4.774	0.86
KA-102	20	2.04	5.962	0.86
KA-102	40	3.46	4.627	0.86
KA-104	20	1.86	8.388	0.86
KA-104	40	3.29	5.981	0.86

<sup>a</sup>Calculated value.

Table xx Measured and calculated values of KA series samples			
Sample	L	FC index (dyn/cm <sup>2</sup> )	W <sup>a</sup>
KA-100			
20 °C	2.17	3.472	0.86
40 °C	3.53	4.774	0.86
KA-102			
20 °C	2.04	5.962	0.86
40 °C	3.46	4.627	0.86
KA-104			
20 °C	1.86	8.388	0.86
40 °C	3.29	5.981	0.86

<sup>a</sup>Calculated value.

BAD

GOOD

Figure 2. Example of a badly designed and well designed table

## 4.2 Figures

Some considerations:

- Captions should be put below the figure
- Figures should be self explanatory
- Figures should be placed as closely as possible after being referred to in the text for the first time
- Use the same abbreviations as used in the text and the tables

### 4.2.1 Graphs

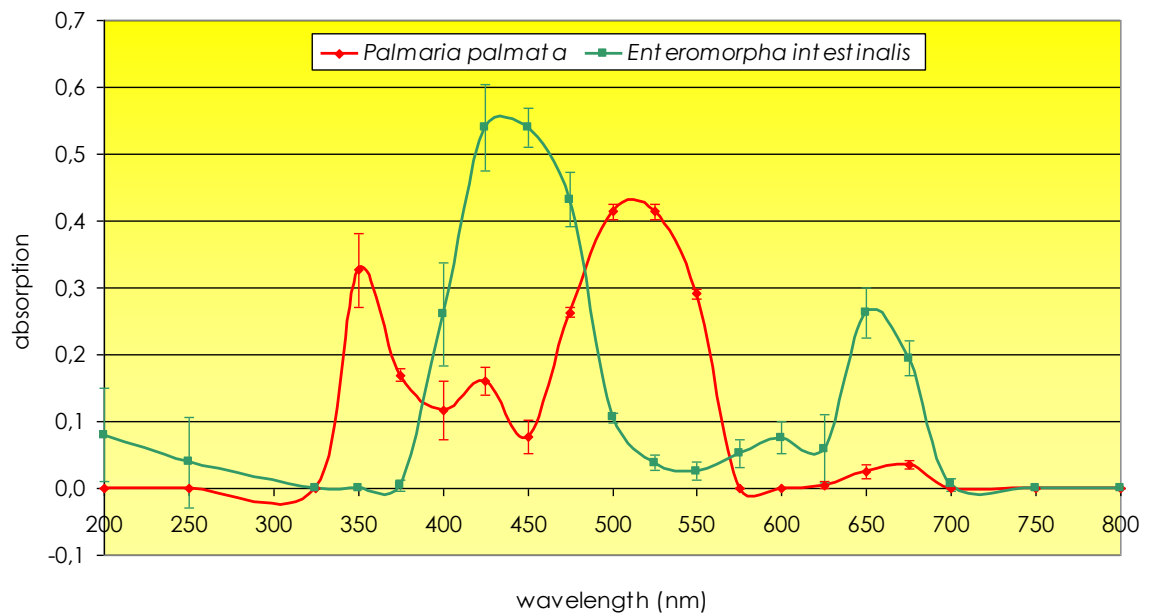
Are used to represent data for which trends or proportions are important characteristics.

General considerations:

- Make efficient use of colours (e.g. in Figure 3, the red line represents the absorption spectrum of the red algae (*Palmaria palmata*) and the green line represents the absorption spectrum of the green algae (*Enteromorpha intestinalis*)
- Be consistent in the font type used in your graphs (preferably the same as the text)
- Use the simplest possible form (pies, bars, lines...) and the most appropriate form (e.g. in Figure 3 a line graph is chosen to represent continuous data)

Line graphs:

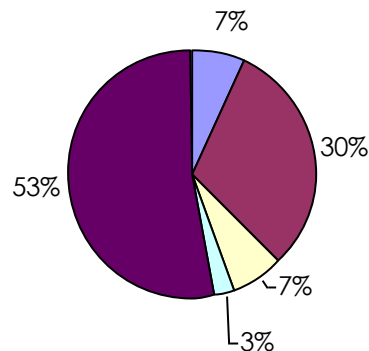
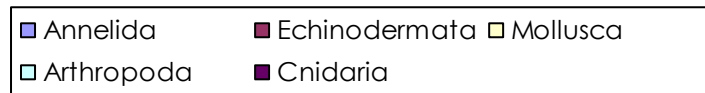
- To represent trends, continuous data
- Limit the number of curves to 3-5 curves and identify the curves clearly with symbols ( $\diamond$ ,  $\square$ ,  $\circ$ )
- Plot the independent variable on the X-axis and the dependent variable on the Y-axis
- Label all axis carefully and show the units of measure
- Use ticks and subticks to divide the axis so that you don't overload it with numbers
- Use whiskers for showing standard deviations of point measurements (see Figure 3)



**Figure 3. Absorption spectra of a red algae *Palmaria palmata* and a green algae *Enteromorpha intestinalis***

Pie charts:

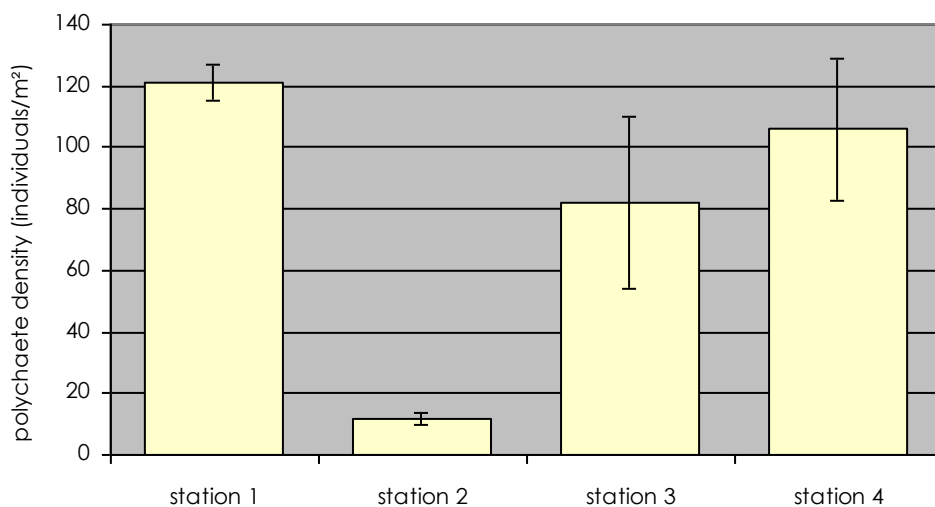
- Are well suited to represent proportions
- Example given in Figure 4



**Figure 4. Relative abundance of various phyla in sampling station M2 (subtidal area)**

Bar graphs:

- Can be presented for data collected at even or uneven intervals
- Bars should be wider than the spaces between them (see Figure 5)
- Use whiskers for showing standard deviations of point measurements (see Figure 5)

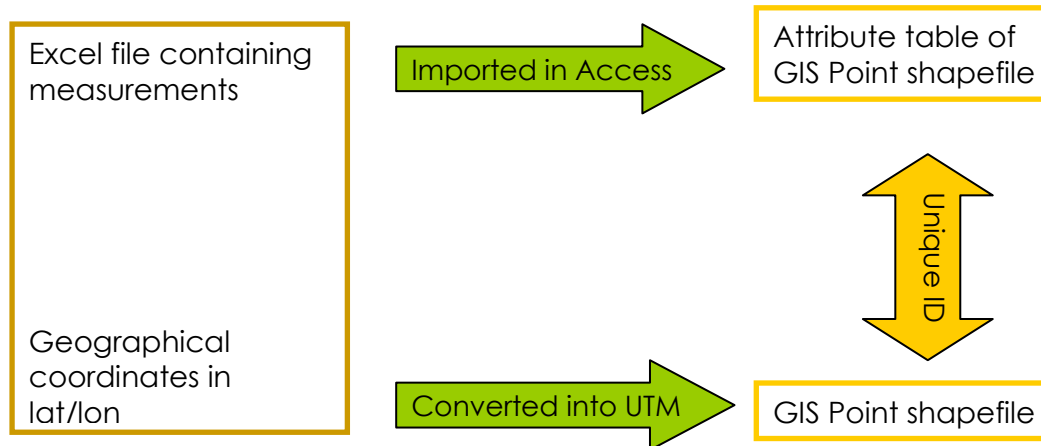


**Figure 5. Polychaete density in station 1, 2, 3 and 4**

#### 4.2.2 Flowcharts

Are visual aids to understand complex concepts or procedures, experimental set-ups etc.

Example:



#### 4.2.3 Photographs

Are used to illustrate the organism under study, the study site, the apparatus used etc.

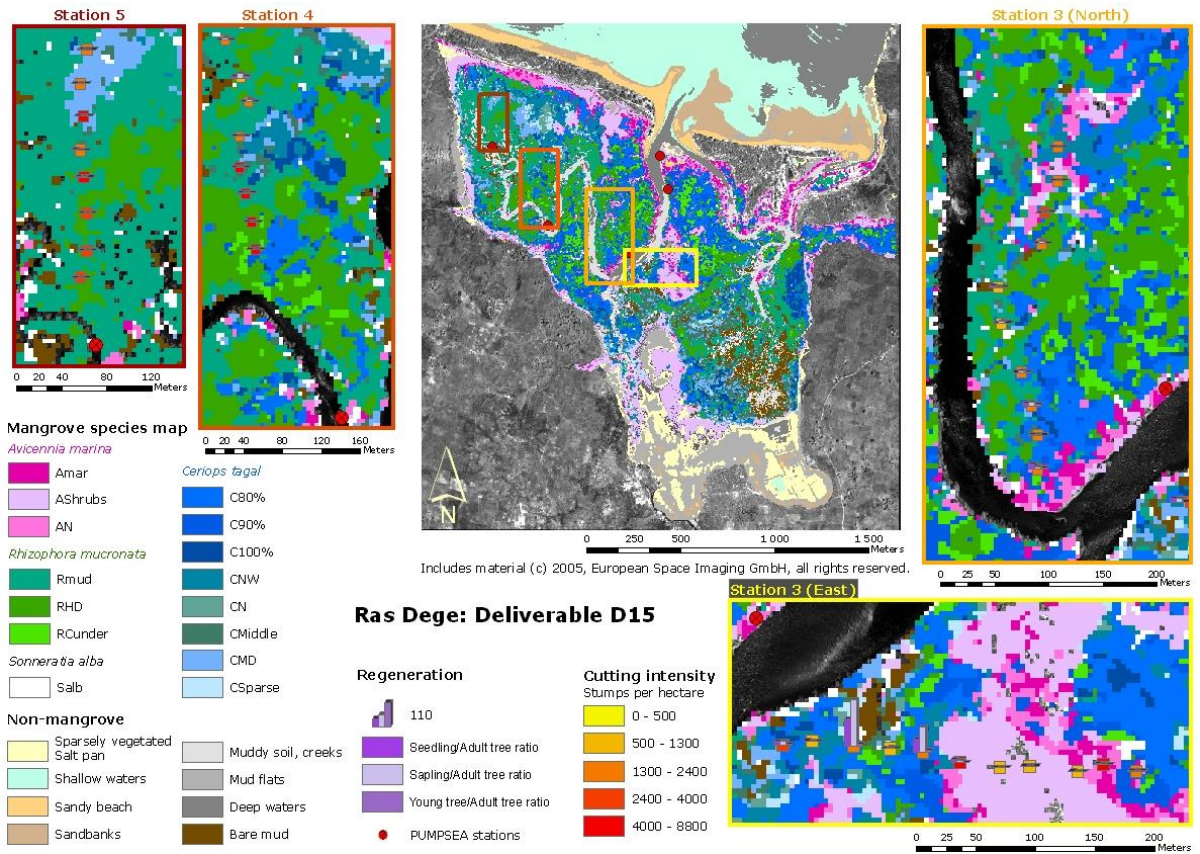
#### 4.2.4 Maps

Should contain (minimally):

- A North arrow
- A scale bar

Example:





**Figure 6. Mangrove species map of Ras Dege mangrove area (Dar es Salaam, Tanzania), indicating regeneration capacity and cutting intensity measured in the sampled 10x10m<sup>2</sup> plots**

## Appendices

### Appendix 1: Verbosity

Source: Scientific Style and Format. The CBE Manual for Authors, Editors and Publishers, 1994. The Council of Biology Editors (now Council of Science Editors), 6<sup>th</sup> Edition, 825 pp. (ISBN: 0-521-47154-0).

A text with unneeded words and phrases slows the reader, and they should be eliminated. A phrase such as "it is interesting to note that" adds no information and only delays getting to the point of the sentence. Expressions such as "It is reported by Smith that. . ." can be shortened, for example, to "Smith reported that. . .". Many such widely used wordy phrases can be shortened to simpler forms.

#### [Wordy]

a majority of  
a number of  
accounted for the fact that  
along the lines of  
an innumerable number  
of an order of magnitude  
are of the same opinion  
as a consequence of  
as far as our own observations are concerned,  
they show  
ascertain the location of  
at the present moment, at this point in time  
bright green in color  
by means of  
caused injuries to  
completely filled  
[We] conducted inoculation  
definitely proved  
despite the fact that  
due to the fact that  
during the course of  
during the time that  
fewer in number  
for the purpose of examining  
for the reason that  
future plans  
give rise to  
goes under the name of  
has the capability of  
if conditions are such that  
in a satisfactory manner, in an adequate  
manner  
in all cases  
in case  
in close proximity to  
in connection with  
in [my, our] opinion it is not an unjustifiable  
assumption that  
in order to

#### [Concise]

most  
few, many, several, some  
because  
like  
innumerable, countless, many  
10 times  
agree  
because of  
we observed  
  
find  
now  
bright green  
by, with  
injured  
filled  
inoculated  
proved  
although  
because, due to  
during, while  
while, when  
fewer  
to examine  
because  
plans  
cause  
is called  
can, is able  
if, when  
satisfactorily, adequately  
  
always, invariably  
if  
near  
about, concerning  
[I. We] think .  
  
To

in the course of	during, while
in the event that	if
in the near future	soon
in the vicinity of	near
in view of the fact that	because
is in a position to	can, may
it has been reported by Jones	Jones reported
it is believed that	[omit]
it is often the case that	often
it is possible that the cause is it is this that	the cause may be this
it is worth pointing out that	note that
it would thus appear that	apparently
lacked the ability to	could not
large amounts of	much
large in size	large
large numbers of	many
lenticular in character	lenticular
located in, located near	in, near
masses are of large size	masses are large, large
necessitates the inclusion of	masses needs, requires
of such hardness that	so hard that
on account of	because
on behalf of	for
on the basis of	from, by, because
on the grounds that	because
original source	source
oval in shape, oval-shaped	oval
owing to the fact that	because, due to
past history	history
plants exhibited good growth	plants grew well
prior to [in time]	before
referred to as	called
results so far achieved	results so far, results to date
round in shape	round
serves the function of being	is
smaller in size	smaller
subsequent to	after
take into consideration	consider
the fish in question	this fish, these fish
the question as to whether	whether
the tests have not as yet	the tests have not
the treatment having been performed	after treatment
there can be little doubt that this is	this probably is
through the use of	by, with [not "via"]
throughout the entire area	throughout the area
throughout the whole of the experiment	throughout                    the
two equal halves	experiment
was of the opinion that	halves
with a view to getting	believed
with reference to	to get
with regard to	about [or omit]
with the result that	about, concerning            [or omit] so that

## **Appendix 2: Choosing a good title**

Source: Davis, M., 1997. *Scientific Papers and Presentations*. Academic Press, San Diego, California, USA, 296 pp. (Appendix 6: Evolution of a title)

Suppose that the following six titles are meant to describe the same study. Some of them are better than others. None of them may be fitting for a specific manuscript. Your choice will depend on which words are most important and which best describe the study involved. Think in terms of the words and the arrangement of words that will lead a reader to the central points in your study. The publisher may also have certain criteria for titles such as length and the use of scientific names.

Sample titles:

1. Controlling the Bollworm
2. Investigations into the Effects of Several Selected Phenolic Acid Compounds on the Mortality Rate, Developmental Time, and Pupal Weight Gain of the Cotton (*Gossipium hirsutum* L.) Bollworm (*Helicoverpa zea* Boddie) in Studies Involving Larvae Fed a Synthetic Diet in the Laboratory
3. The Effects of Selected Phenolic Compounds on the Mortality, Developmental Time, and Pupal Weight of *Helicoverpa zea* Boddie: Synthetic Diet Studies
4. Benzoic and Cinnamic Acids in Synthetic Diets Retard Development of *Helicoverpa zea* Larvae
5. Influence of Benzoic and Cinnamic Acids on Mortality or Growth of Bollworm Larvae
6. Response of *Helicoverpa zea* Larvae to Benzoic and Cinnamic Acids

**Number 1** might serve as a headline for an article in a newsletter for cotton producers, but it contains too little information to describe a scientific study.

**Number 2** is too long and the inclusion of all these words cannot be justified. Certainly, the first three and the last three words can be omitted. Then why not "selected" rather than "several selected"? Why not "phenolic acids" rather than "phenolic acid compounds"? Why not "mortality" rather than "mortality rate"? Why not "pupal weight" rather than "pupal weight gain"? And can't we simply say "bollworm larvae" instead of "bollworm in studies involving larvae"? There is probably no need for the scientific name for cotton because we are naming the cotton bollworm and not the cotton plant. Whether the scientific name *Helicoverpa zea* Boddie appears in a title will depend on the style of the publisher. The authority Boddie might be omitted. Or the scientific names might be used and the common name cotton bollworm might be omitted. These choices would be based on the style of the publisher and the importance of the words for the audience.

**Number 3** is also rather long. We might omit "The effects of" and "the" before "mortality," but we still have a long title and must make some other choices. Can we save the "synthetic diet studies" for the abstract? Some publishers avoid two-part titles with the colon. Can we say "development" rather than "developmental time"? Or can we combine the words "developmental time and pupal weight" into a simple term like "growth"? Again, answers to these questions depend on what we need to best describe the study and which key words will allow the readers to retrieve a publication relevant to their interests.

**Number 4** is perhaps short enough but could still be improved with the omission of "in synthetic diets" unless that information is vital to a brief description of the study. This title adds a detail by naming the specific phenolics used. This information may be worth the extra space needed. However, the title breaks a convention in scientific writing by using an active verb "retards" that describes the outcome of the study. Characteristically, popular press uses such verbs in headlines, but the scientific report simply describes results of a research effort and discusses outcomes but allows the

reader to decide on any final conclusion that can be drawn from the work. What happens under the controlled conditions of a given experiment may not constitute a universal truth, and the active verb appears to be proclaiming such a truth.

**Number 5** is about the same length and is similar to number 4 except that it avoids the active verb and uses the common name of the species rather than the scientific name. The choice of name would depend on which one you and your publisher believe will best communicate the information with your audience. The use of "mortality or growth" is somewhat more specific than "development" in number 4 and may be worthy of the extra two words especially if we can get rid of "in synthetic diets."

**Number 6** is less descriptive of the paper's content **but** conserves words. Here I reserve the mortality and growth for the abstract and generalize with the word *Response*. Such a title may be the best choice especially for display on a poster or slide.