

Title and Executive Summary

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Title

The Title

- Extremely **important** and needs great care → will be **read first**
- Captures **nature of work** → must relate to **specific research question** being studied
- Should **relate** to grant funder's application **call**
- "Good title" → **fewest** possible **words** that adequately describe contents of proposal
- **Accuracy** of title → Very important
- **Concise, specific** and **informative**
- Usually emerges when proposal has been completed

The Title...**How to Prepare the Title**

- List → most **important keywords**
- Think of a title that contains these words
- **NEVER** contains → abbreviations, chemical formulas, proprietary names or jargon
- **Think, rethink** of title before submitting
- Be very **careful of grammatical errors**
- **Waste words** should not be used → eg, 'studies on', 'investigations on', 'a', 'an', 'the' etc.
- **Avoid** the use of the word "using"

The Title...**Title**

Original	Revised	Remarks
Preliminary observations on the effect of Zn element on anticorrosion of zinc plating layer	Effect of Zn on anticorrosion of zinc plating layer	Long title distracts readers. Remove all redundancies such as "studies on", "the nature of", etc.
Action of antibiotics on bacteria	Inhibition of growth of <i>mycobacterium tuberculosis</i> by streptomycin	Titles should be specific. Think about "how will I search for this piece of information" when you design the title.
Fabrication of carbon/CdS coaxial nanofibers displaying optical and electrical properties via electrospinning carbon	Electrospinning of carbon/CdS coaxial nanofibers with optical and electrical properties	"English needs help. The title is nonsense. All materials have properties of all varieties. You could examine my hair for its electrical and optical properties! You MUST be specific. I haven't read the paper but I suspect there is something special about these properties, otherwise why would you be reporting them?" – the Editor-in-chief

Title formation

Organic matter for sustainable agriculture in the tropics

Residual accumulation of herbicide residue threatens the sustainability of rice-wheat rotation systems in northern Bangladesh. The incorporation of green manure into the soil may stimulate the co-mineralization of pesticides and their metabolites. A two year field experiment was conducted on the experimental station of the Bangladesh Rice Research Institute to evaluate the effects of the application of *Azolla pinata* and *Azolla carolingiana* as green manure on the mineralization and co-metabolization of the herbicides propanil and butachlor in a flooded rice soil.....

Title formation

Organic matter for sustainable agriculture in the tropics

Studies on the effects of *Azolla pinata* and *Azolla carolingiana* green manure on the mineralization and co-metabolization of Propanil and Alachlor in a flooded Trophaepta under *Oryza sativa* L. - *Triticum aestivum* L. rotation in Nangara village of Northern Bangladesh

Residual accumulation of herbicide residue threatens the sustainability of rice-wheat rotation systems in northern Bangladesh. The incorporation of green manure into the soil may stimulate the co-mineralization of pesticides and their metabolites. A two year field experiment was conducted on the experimental station of the Bangladesh Rice Research Institute to evaluate the effects of the application of *Azolla pinata* and *Azolla carolingiana* as green manure on the mineralization and co-metabolization of the herbicides propanil and butachlor in a flooded rice soil.....

Title formation

What	Why/Object	-- System/crop ---- Soil -----Area -----		
Where General				
Org. matter	Sustainability	Rice-Wheat	Soil	Asia
N ₂ fixation	Soil health	Rice	Flooded soil	South Asia
Green manure	Agro-chemicals	Lowland rice	Inceptisol	Bangladesh
Azolla	Pesticides	<i>Oryza sativa</i>	Tropaquept	N-Bangladesh
<i>A. pinata</i>	Herbicides	<i>Triticum aestivum</i>		Nangara
<i>A. caralingiana</i>	Mineralization			
Specific	Propanil			
	Alachlor			

Residual accumulation of herbicide residue threatens the sustainability of rice-wheat rotation systems in northern Bangladesh. The incorporation of green manure into the soil may stimulate the co-mineralization of pesticides and their metabolites. A two year field experiment was conducted on the experimental station of the Bangladesh Rice Research Institute to evaluate the effects of the application of *Azolla pinata* and *Azolla carolingiana* as green manure on the mineralization and co-metabolization of the herbicides propanil and butachlor in a flooded rice soil.....

Title formation

What	Why	Where (1)	Where (2)	Where (3)
General				
Org. matter	Sustainability	-- System/crop ---- Soil -----Area -----		
N ₂ fixation	Soil health	Rice-Wheat	Soil	Asia
Green manure	Agro-chemicals	Lowland rice	Flooded soil	South Asia
	Pesticides	<i>Oryza sativa</i>	Inceptisol	Bangladesh
Azolla	Herbicides	<i>Triticum aestivum</i>	Tropaquept	N-Bangladesh
<i>A. pinata</i>	Mineralization			Nangara Village
<i>A. caralingiana</i>	Propanil/Alachlor			
Specific				

Select main words for title

- As general as permissible
- As specific as required

Title formation

What	Why	Where (1)	Where (2)	Where (3)	
General			-- System/crop	---- Soil -----Area -----	
Org. matter	Sustainability				
N ₂ fixation	Soil health	Rice-Wheat	Soil	Asia	
Green manure	Agro-chemicals	Lowland rice	Flooded soil	South Asia	
	Pesticides	<i>Oryza sativa</i>	Inceptisol	Bangladesh	
Specific	Azolla	Herbicides	<i>Triticum aestivum</i>	Tropaquept	N-Bangladesh
	<i>A. pinata</i>	Mineralization			Nagara Village
	<i>A. caralingiana</i>	Propanil/Alachlor			

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General			-- System/crop	---- Soil -----Area -----	
Org. matter	Sustainability				
N ₂ fixation	Soil health	Rice-Wheat	Soil	Asia	
Green manure	Agro-chemicals	Lowland Rice	Flooded soil	South Asia	
	Pesticides	<i>Oryza sativa</i>	Inceptisol	Bangladesh	
Specific	Azolla	Herbicides	<i>Triticum aestivum</i>	Tropaquept	N-Bangladesh
	<i>A. pinata</i>	Mineralization			Nagara Village
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General			-- System/crop	---- Soil -----Area -----	
Org. matter	Sustainability				
N ₂ fixation	Soil health	Rice-Wheat	Soil	Asia	
Green manure	Agro-chemicals	Lowland Rice	Flooded soil	South Asia	
	Pesticides	<i>Oryza sativa</i>	Inceptisol	Bangladesh	
Specific	Azolla	Herbicides	<i>Triticum aestivum</i>	Tropaquept	N-Bangladesh
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Title formation

What	Why	Where (1)	Where (2)	Where (3)	
General			-- System/crop	---- Soil -----Area -----	
Org. matter	Sustainability				
N ₂ fixation	Soil health	Rice-Wheat	Soil	Asia	
Green manure	Agro-chemicals	Lowland Rice	Flooded soil	South Asia	
	Pesticides	<i>Oryza sativa</i>	Inceptisol	Bangladesh	
Specific	Azolla	Herbicides	<i>Triticum aestivum</i>	Tropaquept	N-Bangladesh
	<i>A. pinata</i>	Mineralization			Nangara Village
	<i>A. caralingiana</i>	Propanil/Alachlor			

Select main words for title

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- As specific as required

Title formation

What	Why	Where (1)	Where (2)	Where (3)
General			-- System/crop	---- Soil -----Area -----
Org. matter	Sustainability		Rice-Wheat	Soil
N ₂ fixation	Soil health		Lowland Rice	Flooded soil
Green manure	Agro-chemicals		Oryza sativa	South Asia
	Pesticides		Triticum aestivum	Inceptisol
	Herbicides		Tropaquept	Bangladesh
Specific	Mineralization			N-Bangladesh
Azolla	Propanil/Alachlor			NagaraVillage
A. pinata				
A. caralingiana				

Select main words for title

- As general as permissible
- As specific as required

**Effect of azolla on the mineralization
of herbicides in a flooded rice soil
of Bangladesh**

Keywords

- Keywords → for electronic **searches** and **indexing**
- Use keywords that are **specific**
- Should reflect what is **essential** about the proposal

Key Words

**Use relevant words of lower
hierarchy for key word list**

→ different from title words

→ 5 key words

Key Words

What	Why	Where (1)	Where (2)	Where (3)
General			-- System/crop	Soil -----Area -----
Org. matter	Sustainability			
N ₂ fixation	Soil health	Rice-Wheat	Soil	Asia
Green manure	Agro-chemicals	Lowland Rice	Flooded soil	South Asia
Azolla	Pesticides	<i>Oryza sativa</i>	Inceptisol	Bangladesh
Specific	Herbicides	<i>Triticum aestivum</i>	Tropaquept	N-Bangladesh
<i>A. pinata</i>	Mineralization			Nangara
<i>A. caralingiana</i>	Propanil/Butachlor			

Effect of azolla on the mineralizaion of herbicides in a flooded rice soil of Bangladesh

Use relevant key words of lower hierarchy for key word list

- different from title words
- 5 key words

Key Words

What	Why	Where (1)	Where (2)	Where (3)
General			-- System/crop	Soil -----Area -----
Org. matter	Sustainability			
N ₂ fixation	Soil health	Rice-Wheat	Soil	Africa
Green manure	Agro-chemicals	Lowland Rice	Flooded soil	West Africa
Azolla	Pesticides	<i>Oryza sativa</i>	Inceptisol	Bangladesh
Specific	Herbicides	<i>Triticum aestivum</i>	Tropaquept	N-Bangladesh
<i>A. pinata</i>	Mineralization			Naranga
<i>A. caralingiana</i>	Propanil/Butachlor			

Effect of azolla on the mineralizaion of herbicides in a flooded rice soil of Bangladesh

Use relevant key words of lower hierarchy for key word list

- different from title words
- 5 key words

5-6 Key words:

A. pinnata, *A. Carolongiana*, Propanil, *Oryza sativa*, Inceptisol

Key Words

What	Why	Where (1)	Where (2)	Where (3)
General			-- System/crop	----- Soil ----- Area -----
Org. matter	Sustainability			
N ₂ fixation	Soil health		Rice-Wheat	Soil Asia
Green manure	Agro-chemicals		Lowland Rice	Flooded soil South Asia
	Pesticides		<i>Oryza sativa</i>	Inceptisol Bangladesh
Specific			<i>Triticum aestivum</i>	Tropaquept N-Bangladesh
Azolla	Herbicides			Naranga
<i>A. pinata</i>	Mineralization			
<i>A. caralingiana</i>	Propanil/Butachlor			

Effect of azolla on the mineralizaion of herbicides in a flooded rice soil of Bangladesh

Use relevant key words of lower hirarchy for key word list

- different from title words
- 5 key words

Key words ... in alphabetical order !

A. pinnata, *A. carolongiana*,
Inceptisol, *Oryza sativa*, Propanil

Introduction

What	Why	Where (1)	Where (2)	Where (3)
General			-- System/crop	----- Soil ----- Area -----
Org. matter	Sustainability			
N ₂ fixation	Soil health		Rice-Wheat	Soil Asia
Green manure	Agro-chemicals		Lowland Rice	Flooded soil South Asia
	Pesticides		<i>Oryza sativa</i>	Inceptisol Bangladesh
Specific			<i>Triticum aestivum</i>	Tropaquept N-Bangladesh
Azolla	Herbicides			Nangara
<i>A. pinata</i>	Mineralization			
<i>A. caralingiana</i>	Propanil/Butachlor			

Effect of azolla on the mineralizaion of herbicides in a flooded rice soil of Bangladesh

Use relevant key words of higher hierarchic order in the **Introduction**

Executive Summary / Abstract

*Extremely important part of proposal – reviewers will
very much be influenced by this*

- May be used to decide whether proposal should receive further serious consideration
- Must provide most important message you want to convey
- Must entice reviewer to read more about proposal
- Accurate description of proposed work
- Highlights importance and relevance of research
- Informative to people working in same or related fields
- Guide to proposal

- **Condensed** version of your proposal → self-contained description of problem statement, objectives, methodology, expected output, significance
- May follow → “Problem- Purpose -Method- Application” structure
- **Balanced**: all major areas are covered
- **Clear** and **easy** to understand → not verbose
- **Focused**: no superfluous information is covered
- Able to **stand on its own**
- **Succinct** and **concise**

Executive Summary/Abstract

Provides Answers to These Questions:

What do you intend to do?	Background	
Why is the work important?	Problem	
What has already been done?	Objectives	
	Prelim. Results	← If any
How are you going to do the work?	Strategy	
	Significance	← Methodology

Executive Summary/ abstract is not an introduction → summary of whole grant application

Signals of the Structure

<p>Problem</p> <p>... has not been determined ... is unclear X is limited by ... The questions remains if...</p>	<p>Strategy</p> <p>We will achieve this goal by ... Specifically, we will ... by ... Our general strategy is to ...</p>
<p>Objectives</p> <p>Our objective is ... We propose to ... We will examine the hypothesis that ...</p>	<p>Significance</p> <p>... is important for ... These results may play a role in ... Y can be used to will provide insights into...</p>

Example 1

Global warming is arguably one of the most pressing concerns of our time. However, we lack an effective model to predict precisely by how much the temperature will rise as a consequence of the increased levels of CO₂ and other factors. The width of this range is due to several uncertainties in different elements of the climate models, including the variability in the Sun's rate of energy output. To gain greater insight into the relationship between solar energy output and global temperature, we propose to launch the internationally led ABC satellite in April 2018. Our aim is to collect for 2 years data on the solar diameter and shape, oscillations, and photospheric temperature variation. We will assess these data to model solar variability. Our findings will dramatically advance our understanding of solar activity and its climate effects.

Background

Problem

Objectives

Strategy

Significance

Example 2

X is a major human pathogen, which infects over 100 million people per year, leading to high morbidity and mortality. Current therapies for X are expensive, poorly tolerated, and only partially effective in controlling the pathogens and in limiting disease. Recently, we and other succeeded in establishing a system to grow X in cell culture. These systems will allow us to completely dissect the life cycle of X. Our initial characterization of cell culture-produced X indicates unusual physical properties. Understanding of X's life cycle will aid in the development of improved pharmaceuticals.

Avoid in executive Summary/ Abstracts

- Descriptions of past accomplishments
- Any information not covered in your proposal
- Any confidential information
- Graphs or images
- Citations

Summary