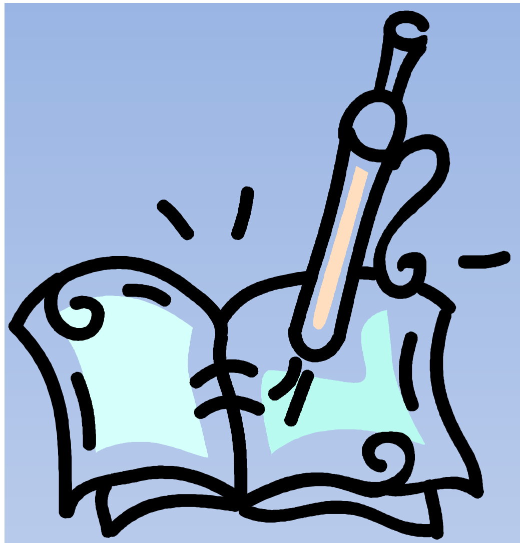


Scientific Writing: Journal articles & research papers

Dr Phil Stevenson

p.c.stevenson@gre.ac.uk

ADAPPT
African Dryland Alliance for Pesticidal Plant Technologies

www.nri.org/adappt

the UNIVERSITY of GREENWICH

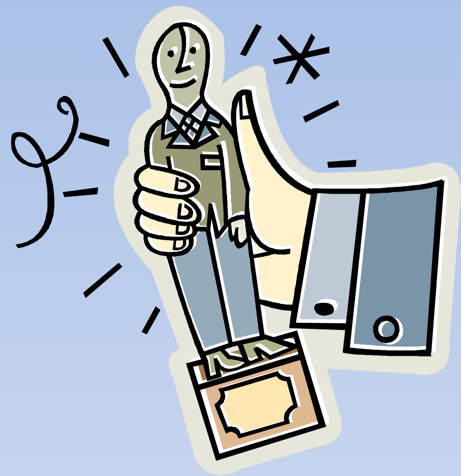
What do you want from your published scientific paper?

- You want:
  - To report scientific findings
  - Recognition at work
  - Peer recognition
  - Recognition by a wider (global) audience

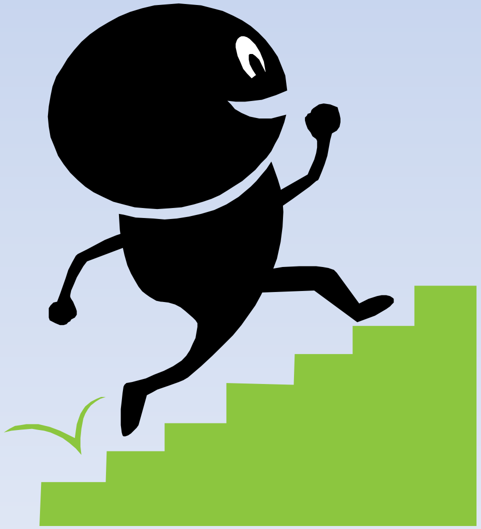
Report scientific findings

- Paper must be published!
- Paper should reach a wide audience
  - Choose publication carefully
    - Highest impact?
    - Widest reach?

Recognition at work

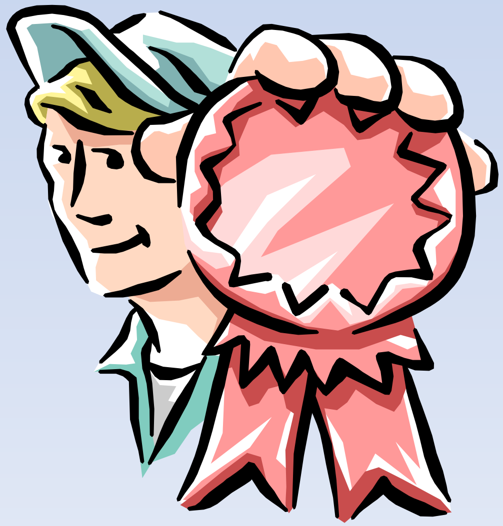


- Enhance reputation.
- Help promotion prospects
- Help career prospects



Peer recognition

- High quality paper - enhanced reputation & external esteem.
- Research calibre assessed by publications
  – international level playing field.
- High quality comes from well written paper and high quality data.



Recognition by a wider audience

- Paper must be of high quality
- Paper must be readily found

  using an electronic search engine.

Where do I start?

Research idea????

Is it novel/original? → In a big or small way?

↓

Check Literature/Discuss with colleagues/Peers

↓

Reference data bases
(Web of Science/Science Direct/PubMed
Google Scholar/Infoseek/Journals/etc)

What is novel

- Stevenson et al., 2007 evaluated effects of *Cassia sophera* leaves on *Sitophilus zeamais* in Maize in lab and on station.

1. Effects of *Cassia sophera* on *Sitophilus oryzae* on rice?
2. Identification of toxic compounds in *C. sophera* against *S. zeamais?*
3. Farmer participatory trials of *C. sophera* to control storage pests of Maize
4. Effects of *Cassia sophera against S. zeamais* in Zambia

Can the "research" be carried out by you?

Nature of research

↓

Laboratory based: Literature/survey based

If something's worth doing – its worth doing properly.

Can the "research" be carried out by you at your institute?

What are the requirements:

i) Scientific expertise
ii) Available facilities /resources
   (equipped laboratory + computing)
iii) Time frame (make a GANNT chart)
iv) Group project/collaborations through networks
v) Multi-disciplinary teams
vi) Collaborative approach
vii) Management/end goals
viii) Financing – increasingly the driving force.

The steps of the Scientific Method

Observation of phenomenon

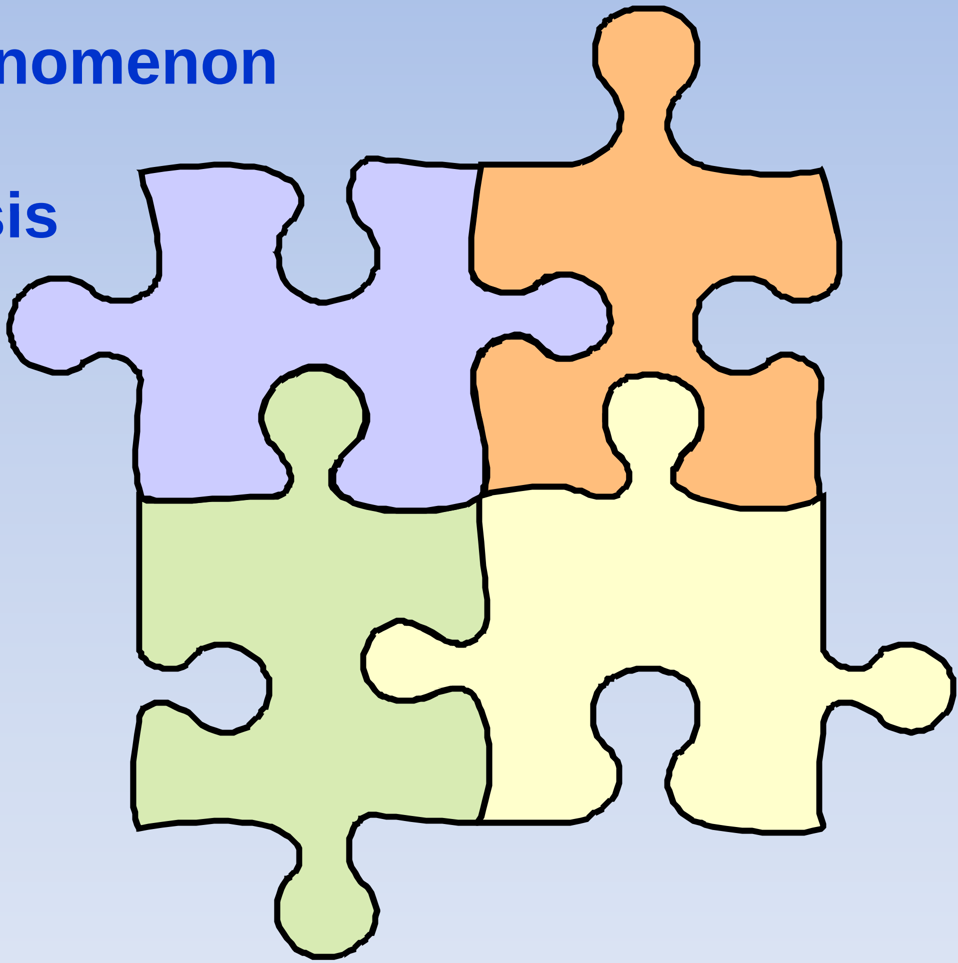
Research Hypothesis

Prediction

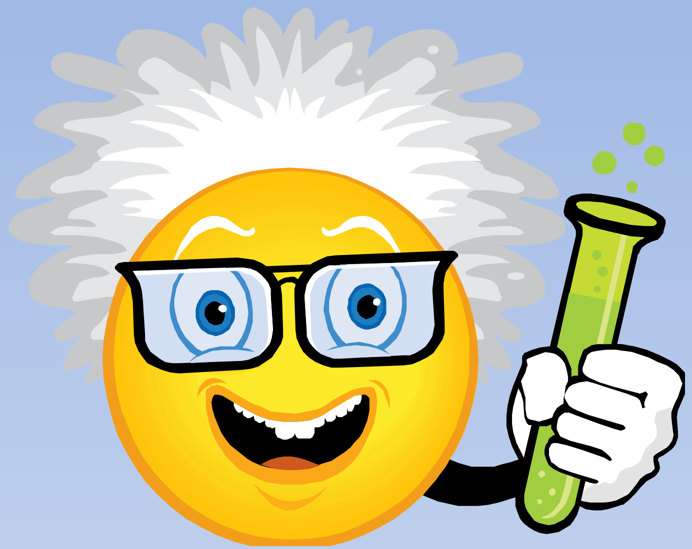
Experimentation

Conclusion (s)

PAPER WRITING!!!!!



Research Design



Materials, samples, chemicals

Equipment & instrumentation

Experimental protocols (complexity/diversity)

Methods of data analysis (e.g. statistics)

Seek advice – cooperate and collaborate

The enemy is ignorance not your colleagues

Research Design

Remember:

1) Health and Safety rules and regulations forms
   e.g. In UK *Control of substances hazardous to health* (COSHH) – Health and Safety Exec
2) Ethics
3) Consent forms
4) Are “ licences” required?
   (e.g. Insects? GM materials? Material Transfer Agreements? Contract agreements?)
5) Safety issues
6) Requirements of regulatory bodies
   Institutional, National, International

Keep Voucher specimens!!!!

Research Design

Where is the research to be "published" (?):

i) "in–house news letter"

ii) internal report

iii) professional journal/publication

iv) scientific journal

    a) impact factor

    b) refereed

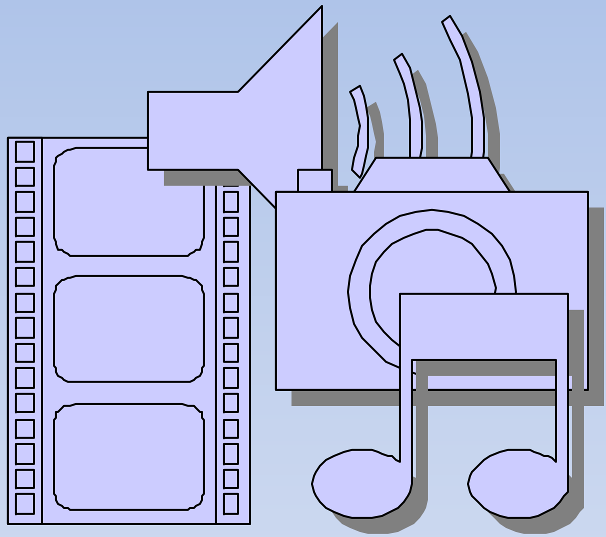
    c) printed/electronic

    d) pure electronic "journals" (payment?)

v) book chapter

vi) conference proceedings

vii) Poster at national/international conference

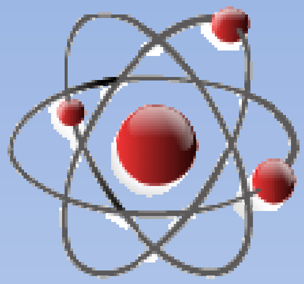


Major considerations before embarking on report of Research findings

- Research, content and conclusions of manuscript must be evidence based <u>and statistically robust</u>
  - Avoid excessive conjecture
  - Avoid assumptions
  - But see the broader picture

- Use peer reviewed research methodologies and statistical analysis

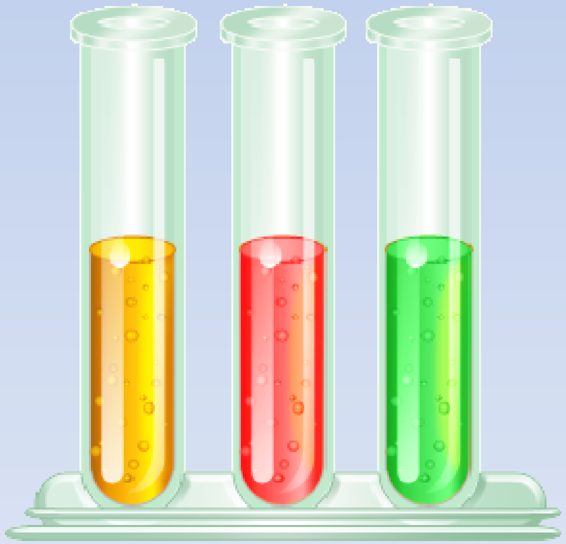
- The pleural of anecdote is NOT evidence!



What to include in your article?

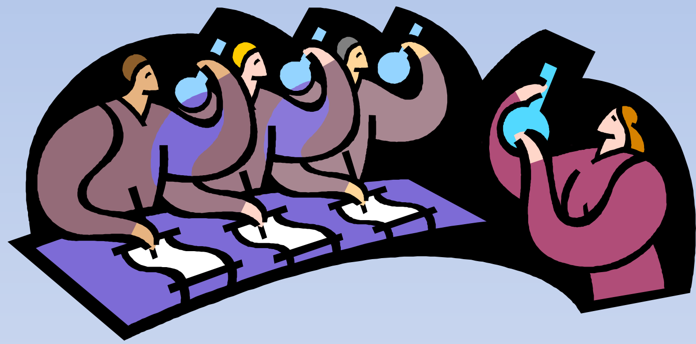
This will depend on journal.

- Title
- Abstract
- Introduction
- Materials and Methods
- Results (with Tables and Figures)
- Discussion
- Acknowledgments
- References or Literature Cited



Authorship 1

- Establish co-authors & who will write what
- Don't have more authors than facts!
- Order of authorship
  - 1st place usually to the principal author or investigator
  - Last place traditionally of second most significant spot – often taken by HoD or PI
  - Corresponding authorship often used to indicate overall project or research team authority.



Authorship 2

- Ethical guidelines on authorship
  - All authors should be able to say what they contributed constructively to the paper
  - This is a requirement for many journals now
  - Running the department doesn't count!
  - Being someone's boss doesn't either!
  - Designing experiments & developing concept might

Key approaches to writing: being read successfully

- Clear & Concise with Critical thinking (of your own research and other cited work).
- Put yourself in the readers (referees) position
  - Don't make assumptions about readers knowledge
  - Establish in-house editorial groups
  - Get colleagues to read your work - feedback
  - Read colleagues work in return.
- Put manuscript in drawer for 2weeks and re-read it – helps to give new perspective

What are you Writing and who for?

- Research papers
  - refereed journals
  - conference papers
- Research/technical reports
  - Press, Policy papers, technical reports for funding agency.
- MSc /PhD Theses
- Read successful examples – *critically*.
- Don’t publish same work twice.

Choosing a Journal

- Read journal aims and scope to determine if your work fits with the journal and readership.
- Can reject papers outright if outside scope.
  - Don't waste your time
  - rejection is deflating and resubmission requires a lot of work – re working style, references etc.
- Read recent papers from the chosen journal to check content, style and length.

Crop Protection – Aims and Scope

- The Editors of Crop Protection especially welcome papers describing an interdisciplinary approach showing how different control strategies can be integrated into practical pest management programmes, covering high and low input agricultural systems worldwide. Crop Protection particularly emphasizes the practical aspects of control in the field and for protected crops, and includes work which may lead in the near future to more effective control. The journal does not duplicate the many existing excellent biological science journals, which deal mainly with the more fundamental aspects of plant pathology, applied zoology and weed science. *Crop Protection* covers all practical aspects of pest, disease and weed control, including the following topics:

Impact and readership.

- Impact factor (ISI-Thomson Reuters)
  - mean annual citations per article in most recent two years following publication. i.e., in 2010 and 2009 for 2008 papers.
- *Nature* IF = 34
- *Current Biology* IF = 10
- *Pest Management Science* = 2.2
- *Crop Protection* IF = 1.3
- *African Journal of Biotechnology* IF = 0.6
- *African Journal of Agricultural Research* IF = 0.08 (<10%)
  - Can look these up on web for individual journals
  - Many new journals (especially on line) don’t yet have them.

Instructions for authors

- Read them thoroughly

- They are provided for a reason.
  - Uniformity
  - Economy of space.
  - suggested length of sections, things to include, options for supplementary information, style – particularly references etc

Plagiarism in publishing

- Plagiarism is a very serious academic and publishing offence.
- *In UK – students get* suspension from the University and a mark of zero. This could lead to course failure
- Professional staff can be sacked
- Submitted manuscripts rejected (authors names noted).
- Loss of academic integrity.

Plagiarism – what is it?

- Copying others work (even if you cite)
  - Entirely copied work
  - Word for word sections of others work
  - Concepts and ideas process (intellectual property)
  - Crude paraphrasing

Plagiarism – avoiding it.

- Keep careful and complete track of sources.
- Distinguish between your ideas and others.
  - intellectual honesty
  - if you use other's conclusions, acknowledge them even if you came to same conclusions yourself.
- Distinguish carefully your own words and experimental work and those of others.

Plagiarism – avoiding it.

- *Organizing your writing in an original manner*.
  - Avoid mimicking pattern or order of argument used by others. Remember: this is YOUR contribution
- As you weave others ideas into your work, *make clear choices about the use of quoted material*.
- Avoid close paraphrasing or purely cosmetic changes.

Plagiarism – avoiding it.

- Write an initial draft without actually looking at your source material.
- add specific facts later once own comprehension written.
- effective paraphrasing is not the same as *substituting synonyms and rearranging words – this is plagiarism even where the source is cited!*

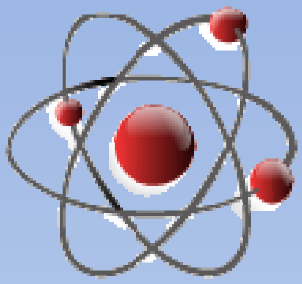
Original:
If the existence of a signing ape was unsettling for linguists, it was also startling news for animal behaviorists. ---Flora Davis (1978), *Eloquent Animals, p. 26*

Version 1:
According to Flora Davis (1978), linguists and animal behaviorists were unprepared for the news that a chimp could communicate with its trainers through sign language (26).

Version 2:
The existence of a signing ape unsettled linguists and startled animal behaviorists (Davis, 1978).

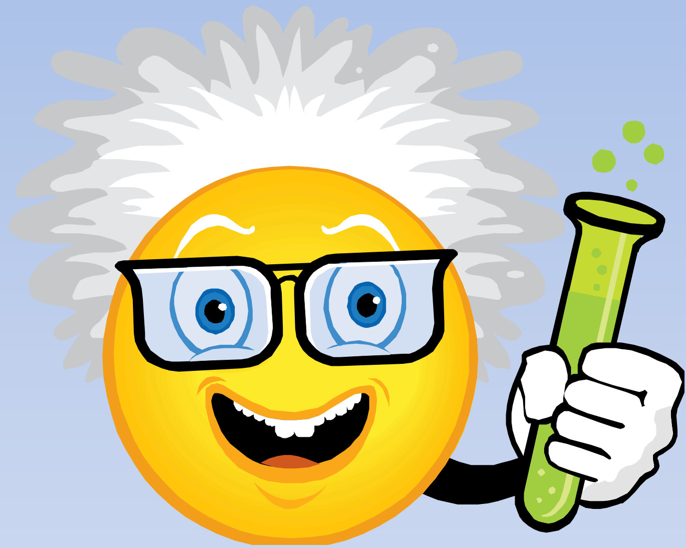
Version 3:
If the presence of a sign-language-using chimp was disturbing for scientists studying language, it was also surprising to scientists studying animal behavior (Davis 1978).

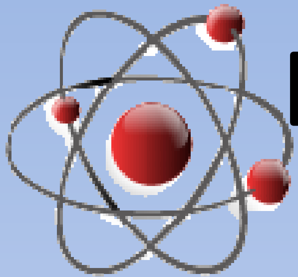
(Samples taken from Diana Hacker's *Rules for Writers, 3rd ed. p. 356)*



So what do you write first?

- Title
- Abstract
- Introduction
- Materials and Methods
- Results (with Tables and Figures)
- Discussion
- Acknowledgments
- References or Literature Cited





But what do you write first?

- Title 6
- Abstract 5
- Introduction 4
- Materials and Methods 3
- Results (with Tables and Figures) 1
- Discussion 2
- Acknowledgments 7
- Literature Cited 1-7

Choosing a Title

- Make the title specific:
  - A good title should describe the contents of the paper in the fewest possible words.
  - Keep to 12 words or less.
- The title should be appropriate for the intended audience (particularly the referee).
- It should make people want to read the paper.

Compare

- A study of the effects of chaos as a source of complexity and diversity in evolutionary processes.
- Chaos as a source of complexity and diversity in evolution

Title Guidelines

- Titles contain key words.
- Some are more important than others.
- Place key words near the start of the title
  - makes it easier for reader to determine what paper is about.

Title Guidelines

- Insert searchable keywords in your title.
- This makes it easier for your work to be found using web-based engine.

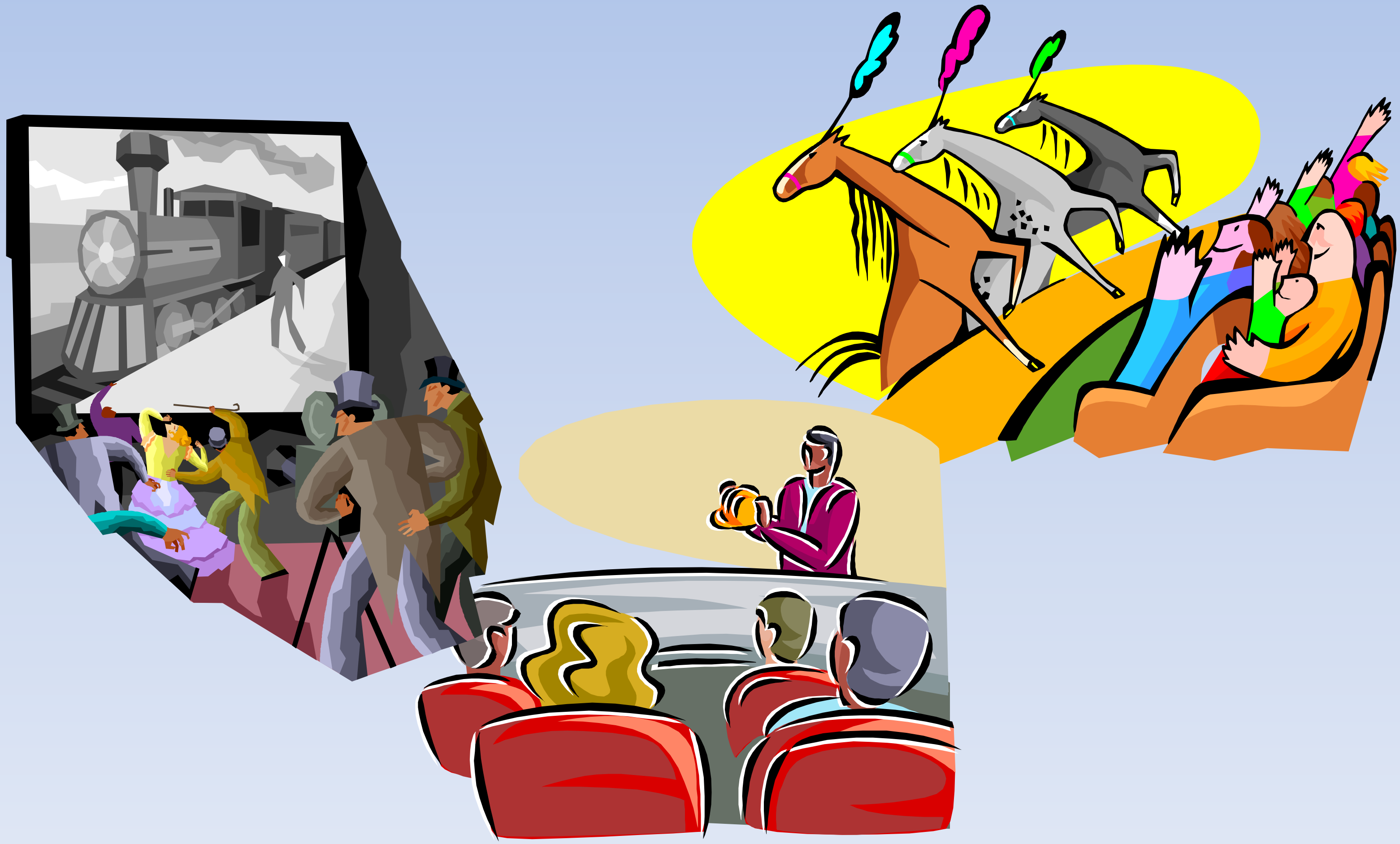
Compare – word search

- Interim Technical Report on progress from the ADAPPT project.

- Optimising use of Pesticidal Plants against cattle ticks and maize pests in Africa: ADAPPT Project interim report.

Title Guidelines

- Suit the title to your audience.



Compare

- Fat Rats: What Makes Them Eat?
  - *New Scientist*.
- The role of Luteinising Hormone to Obesity in the Zucker Rat
  - *Journal of Neuroendocrinology*
- Rats hold the key to a gorgeous body.
  - *The Daily Mail*.

Scientific names in title help clarity about content and with citations.

But avoid overdoing it! – e.g. Family names etc

J Chem Ecol (2010) 36:227–235
DOI 10.1007/s10886-010-9748-8

Inactivation of Baculovirus by Isoflavonoids on Chickpea (*Cicer arietinum*) Leaf Surfaces Reduces the Efficacy of Nucleopolyhedrovirus Against *Helicoverpa armigera*

Philip C. Stevenson · Reju F. D'Cunha · David Grzywacz

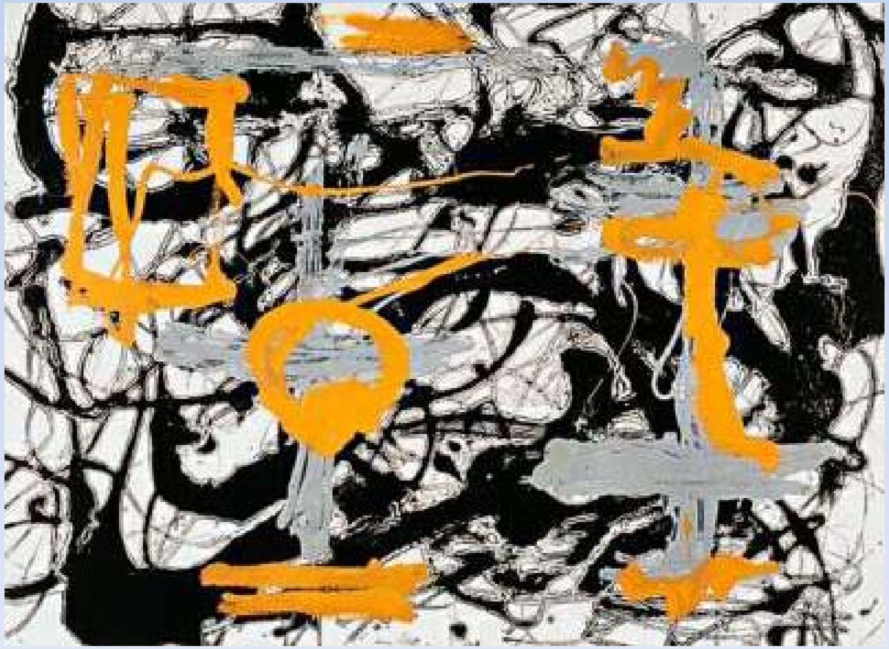
Received: 6 October 2009 / Revised: 14 January 2010 / Accepted: 15 January 2010 / Published online: 10 February 2010
© Springer Science+Business Media, LLC 2010

Abstract Biological pesticides based on nucleopolyhedroviruses (NPVs) can provide an effective and environmentally benign alternative to synthetic chemicals. On some crops, however, the efficacy and persistence of NPVs is

indicating induction was in response to spraying and not a specific response to the *Hear*NPV. Although inactivation by the isoflavonoids did not account completely for the level of effect recorded on whole plants, this work constitutes

The Abstract
What did I do in a nutshell

- The abstract should provide a very short summary of your work.
- It should stand on its own and it should not be too technical or bulging with data
- It should state your main findings and conclusions.



Reality of Abstracts

- ITS OFTEN THE ONLY PART OF YOUR PAPER THAT WILL EVER BE READ.
- Publications databases provide abstracts only
- Shouldn’t be unintelligble
  - Even if nice to look at

The Abstract: What it should contain

- Very briefly (check word count with journal and guidelines) write:
  - What you did,
  - Why you did it
  - What are the results implications

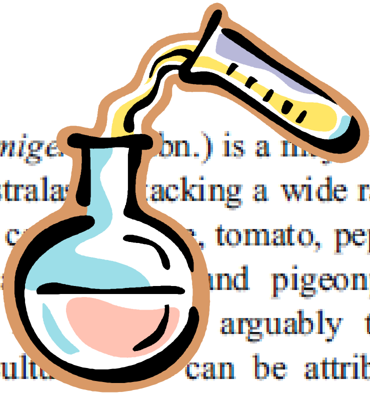
Background information and why we did the work

Received: 6 October 2009 / Revised: 14 January 2010 / Accepted: 15 January 2010 / Published online: 10 February 2010
© Springer Science+Business Media, LLC 2010

Abstract Biological pesticides based on nucleopolyhedroviruses (NPVs) can provide an effective and environmentally benign alternative to synthetic chemicals. On some crops, however, the efficacy and persistence of NPVs is known to be reduced by plant specific factors. The present study investigated the efficacy of *Helicoverpa armigera* NPV (*Hear*NPV) for control of *H. armigera* larvae, and showed that chickpea reduced the infectivity of virus occlusion bodies (OBs) exposed to the leaf surface of chickpea for at least 1 h. The degree of inactivation was greater on chickpea than that previously reported on cotton, and the mode of action is different from that of cotton. The effect was observed for larvae that consumed OBs on chickpea leaves, but it also occurred when OBs were removed after exposure to plants and inoculated onto artificial diet, indicating that inhibition was leaf surface-related and permanent. Despite their profuse exudation from trichomes on chickpea leaves and their low pH, organic acids—primarily oxalic and malic acid—caused no inhibition. When *Hear*NPV was incubated with biochanin A and sissotrin, however, two minor constituents of chickpea leaf extracts, OB activity was reduced significantly. These two isoflavonoids increased in concentration by up to 3 times within 1 h of spraying the virus suspension onto the plants and also when spraying only the carrier, indicating induction was in response to spraying and not a specific response to the *Hear*NPV. Although inactivation by the isoflavonoids did not account completely for the level of effect recorded on whole plants, this work constitutes evidence for a novel mechanism of NPV inactivation in legumes. Expanding the use of biological pesticides on legume crops will be dependent upon the development of suitable formulations for OBs to overcome plant secondary chemical effects.

Keywords Baculovirus · Biopesticide · Nucleopolyhedrovirus · *Helicoverpa armigera* · Chickpea · Induced resistance · Plant leaf chemistry · Isoflavonoid

Introduction



Helicoverpa armige... bn.) is a m... crop pest in Asia, Africa, and Australa... acking a wide range of important crops including c..., tomato, peppers, chilies, and legumes such ... nd pigeonpea (King 1994; Gowda 2005). ... arguably the world's most important agricult... can be attributed to its wide geographical and host range coupled with its ability to develop high levels of resistance to chemical insecticides (Armes et al. 1992b; Kranthi et al. 2002). The baculovirus

What we did and the results

Received: 6 October 2009 / Revised: 14 January 2010 / Accepted: 15 January 2010 / Published online: 10 February 2010
© Springer Science+Business Media, LLC 2010

Abstract Biological pesticides based on nucleopolyhedroviruses (NPVs) can provide an effective and environmentally benign alternative to synthetic chemicals. On some crops, however, the efficacy and persistence of NPVs is known to be reduced by plant specific factors. The present study investigated the efficacy of *Helicoverpa armigera* NPV (*Hear*NPV) for control of *H. armigera* larvae, and showed that chickpea reduced the infectivity of virus occlusion bodies (OBs) exposed to the leaf surface of chickpea for at least 1 h. The degree of inactivation was greater on chickpea than that previously reported on cotton, and the mode of action is different from that of cotton. The effect was observed for larvae that consumed OBs on chickpea leaves, but it also occurred when OBs were removed after exposure to plants and inoculated onto artificial diet, indicating that inhibition was leaf surface-related and permanent. Despite their profuse exudation from trichomes on chickpea leaves and their low pH, organic acids—primarily oxalic and malic acid—caused no inhibition. When *Hear*NPV was incubated with biochanin A and sissotrin, however, two minor constituents of chickpea leaf extracts, OB activity was reduced significantly. These two isoflavonoids increased in concentration by up to 3 times within 1 h of spraying the virus suspension onto the plants and also when spraying only the carrier, indicating induction was in response to spraying and not a specific response to the *Hear*NPV. Although inactivation by the isoflavonoids did not account completely for the level of effect recorded on whole plants, this work constitutes evidence for a novel mechanism of NPV inactivation in legumes. Expanding the use of biological pesticides on legume crops will be dependent upon the development of suitable formulations for OBs to overcome plant secondary chemical effects.

Keywords Baculovirus · Biopesticide · Nucleopolyhedrovirus · *Helicoverpa armigera* · Chickpea · Induced resistance · Plant leaf chemistry · Isoflavonoid

Introduction

Helicoverpa armigera (Hubn.) is a ... Asia, Africa, and Australasia attacking a ... crops including cotton, maize, t... legumes such as chickpea a... Gowda 2005). Its status as ... important agricultural pest ca... geographical and host ... develop high levels ... (Armes et al. 199...

Conclusions and implications

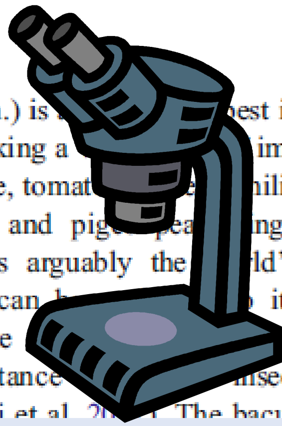
Received: 6 October 2009 / Revised: 14 January 2010 / Accepted: 15 January 2010 / Published online: 10 February 2010
© Springer Science+Business Media, LLC 2010

Abstract Biological pesticides based on nucleopolyhedroviruses (NPVs) can provide an effective and environmentally benign alternative to synthetic chemicals. On some crops, however, the efficacy and persistence of NPVs is known to be reduced by plant specific factors. The present study investigated the efficacy of *Helicoverpa armigera* NPV (*Hear*NPV) for control of *H. armigera* larvae, and showed that chickpea reduced the infectivity of virus occlusion bodies (OBs) exposed to the leaf surface of chickpea for at least 1 h. The degree of inactivation was greater on chickpea than that previously reported on cotton, and the mode of action is different from that of cotton. The effect was observed for larvae that consumed OBs on chickpea leaves, but it also occurred when OBs were removed after exposure to plants and inoculated onto artificial diet, indicating that inhibition was leaf surface-related and permanent. Despite their profuse exudation from trichomes on chickpea leaves and their low pH, organic acids—primarily oxalic and malic acid—caused no inhibition. When *Hear*NPV was incubated with biochanin A and sissotrin, however, two minor constituents of chickpea leaf extracts, OB activity was reduced significantly. These two isoflavonoids increased in concentration by up to 3 times within 1 h of spraying the virus suspension onto the plants and also when spraying only the carrier, indicating induction was in response to spraying and not a specific response to the *Hear*NPV. Although inactivation by the isoflavonoids did not account completely for the level of effect recorded on whole plants, this work constitutes evidence for a novel mechanism of NPV inactivation in legumes. Expanding the use of biological pesticides on legume crops will be dependent upon the development of suitable formulations for OBs to overcome plant secondary chemical effects.

Keywords Baculovirus · Biopesticide · Nucleopolyhedrovirus · *Helicoverpa armigera* · Chickpea · Induced resistance · Plant leaf chemistry · Isoflavonoid

Introduction

Helicoverpa armigera (Hubn.) is ... est in Asia, Africa, and Australasia attacking a ... important crops including cotton, maize, tomat... ilies, and legumes such as chickpea and pig... ng 1994; Gowda 2005). Its status as arguably the ... ld's most important agricultural pest can ... its wide geographical and host range ... ility to develop high levels of resistance ... insecticides (Armes et al. 1992b; Kranthi et al. 20... The baculovirus



urnal homepage: www.elsevier.com/locate/tetlet

vonoids from the pods of *Bobgunnia madagascariensis*

n P. Nyirenda [c], Nigel C. Veitch [a]

chmond, Surrey TW9 3AB, UK
h, Chatham Maritime, Kent ME4 4TB, UK
ox 59, Mzuzu, Malawi

In some journals abstracts are limited to record the experimental work only

A B S T R A C T

Methanolic extracts of the pods of *Bobgunnia madagascariensis* (Leguminosae) yielded four pentaglycosylated flavonoids, including the 3-*O*-α-L-rhamnopyranosyl(1→3)-α-L-rhamnopyranosyl(1→2)[α-L-rhamnopyranosyl(1→6)]-β-D-glucopyranoside-7-*O*-α-L-rhamnopyranosides of 3,5,7-trihydroxy-2-(4-hydroxyphenyl)-4*H*-benzopyran-4-one (kaempferol) and 3,5,7-trihydroxy-2-(3,4-dihydroxyphenyl)-4*H*-benzopyran-4-one (quercetin), which were characterized by a novel O-linked branched tetrasaccharide. Spectroscopic and chemical methods were used to determine the structures of the latter, which co-occurred with the corresponding β-D-galactopyranosyl isomers, and two saponins. Conformational isomerism of quercetin 3-*O*-α-L-rhamnopyranosyl(1→3)-α-L-rhamnopyranosyl(1→2)[α-L-rhamnopyranosyl(1→6)]-β-D-glucopyranoside-7-*O*-α-L-rhamnopyranoside was detected in solution by NMR, a phenomenon previously associated only with *C*-glycosylflavonoids.

© 2010 Elsevier Ltd. All rights reserved.

The Keyword List

- opportunity to add words used by indexing and abstracting services
- They are often but not exclusively additional to those in the title.
- Helps others find your work and cite it.
- All research quality now determined by citation indices.

Highly glycosylated flavonoids from the pods of *Bo*

Philip C. Stevenson [a,b,*], Stephen P. Nyirenda [c], Nigel C. Veitch [a]

[a] *Jodrell Laboratory, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AB, UK*
[b] *Natural Resources Institute, University of Greenwich, Chatham Maritime, Kent ME4 4TB, UK*
[c] *Department of Agricultural Research Services, PO Box 59, Mzuzu, Malawi*

A R T I C L E   I N F O

Article history:
Received 19 April 2010
Revised 16 June 2010
Accepted 2 July 2010
Available online 7 July 2010

Keywords:
Bobgunnia
Swartzia
Tribe Swartzieae
Leguminosae
flavonol pentaglycosides
saponins

A B S T R A C T

Methanolic extracts of the pods of *Bobgunnia madag*
flavonoids, including the 3-*O*-α-L-rhamnopyran
anosyl(1→6)]-β-D-glucopyranoside-7-*O*-α-L-rham
4*H*-benzopyran-4-one (kaempferol) and 3,5,7-trih
(quercetin), which were characterized by a novel
chemical methods were used to determine the
corresponding β-D-galactopyranosyl isomers, and
3-*O*-α-L-rhamnopyranosyl(1→3)-α-L-rhamnopyr
pyranoside-7-*O*-α-L-rhamnopyranoside was dete
associated only with *C*-glycosylflavonoids.

The Introduction

- The purpose of the introduction is to:
  - Establish the context of the work being reported.
  - This is accomplished by discussing (as briefly as possible) the relevant primary research literature (with citations) and
  - Summarizing current understanding of the problem you are investigating.

The Introduction

- State the purpose of the work in the form of the hypothesis, question, or problem you investigated.

farmers, is discussed.

KEYWORDS: *Securidaca*; saponins; oviposition deterrent; *Sitophilus*; *Callosobruchus*; bruchid

Background to subject

INTRODUCTION

Despite the commercial difficulties associated with the registration of plant compounds as agrochemicals, interest in pesticidal plants continues to grow (*1*, *2*). In the developed world, this is linked to increasing demand for organic produce, for which plant derived products are acceptable in pest control, despite examples such as rotenone having well-known mammalian toxicity (*3*). Effective alternatives to synthetic pesticides, however, are often a necessity rather than a choice for small-scale farmers in sub-Saharan Africa. This is because synthetic pesticides can be expensive, are often adulterated, are increasingly ineffective owing to pest resistance, and may be difficult to access reliably (*4*). At best, pesticidal plants provide low-cost, safer, and environmentally benign alternatives to synthetic pesticides.

Understanding why pesticidal plants are effective may facilitate the optimization of their use and therefore increase agricultural productivity, particularly among some of the world's poorest farmers (*5*). In this respect, we have investigated *Securidaca longepedunculata* Fresen. (Polygalaceae), a widespread tree of tropical African savannah, especially of Miombo and Caesalpinioid woodland. This species has a wide variety of indigenous uses including the protection of stored grain from weevil damage (*6*, *7*). The activity is reportedly associated with nonpolar compounds in the roots (*4*, *8*). Compounds identified from *Securidaca longepedunculata* previously include methyl salicylate (*9*), tannins (*10*), sucrose derivatives (*11*), phenolics (*12*) saponins (*13*, *14*), xanthones (*15*−*17*), and alkaloids (*18*, *19*). The aim of the present study was to evaluate the effect of the powdered root bark and methanol extracts of the root bark of this species against the Coleopteran stored product pests, *Sitophilus zeamais* Motchulsky and *Callosobruchus maculatus* F., up to 9 months after treatment of the stored commodity, and identify and elucidate structures of compounds responsible for the effects.

*Corresponding author. Tel: +44-208-332-5377. Fax: +44-20-8332-5310. E-mail: p.stevenson@kew.org.

MATERIALS AND METHODS

Reagents. Methanol (HPLC grade) and acetic acid (HPLC grade) were obtained from Merck (U.K.). All other chemicals were of analytical grade. Deionized water was obtained from an in-house Milli-Q Plus System (Millipore, Inc., Billerica, MA) at 18.2 MΩ.

Plant Material Extraction. *S. longepedunculata* roots were collected from Tamale in North Ghana (Royal Botanic Gardens, Kew ref

© 2009 American Chemical Society

From Stevenson et al., 2009 *Journal of Agricultural and Food Chemistry*, 57, 8860

farmers, is discussed.

KEYWORDS: *Securidaca*; saponins; oviposition deterrent; *Sitophilus*; *Callosobruchus*; bruchid

Reason for this particular work

INTRODUCTION

Despite the commercial difficulties associated with the registration of plant compounds as agrochemicals, interest in pesticidal plants continues to grow (*1*, *2*). In the developed world, this is linked to increasing demand for organic produce, for which plant derived products are acceptable in pest control, despite examples such as rotenone having well-known mammalian toxicity (*3*). Effective alternatives to synthetic pesticides, however, are often a necessity rather than a choice for small-scale farmers in sub-Saharan Africa. This is because synthetic pesticides can be expensive, are often adulterated, are increasingly ineffective owing to pest resistance, and may be difficult to access reliably (*4*). At best, pesticidal plants provide low-cost, safer, and environmentally benign alternatives to synthetic pesticides.

Understanding why pesticidal plants are effective may facilitate the optimization of their use and therefore increase agricultural productivity, particularly among some of the world's poorest farmers (*5*). In this respect, we have investigated *Securidaca longepedunculata* Fresen. (Polygalaceae), a widespread tree of tropical African savannah, especially of Miombo and Caesalpinioid woodland. This species has a wide variety of indigenous uses including the protection of stored grain from weevil damage (*6*, *7*). The activity is reportedly associated with nonpolar compounds in the roots (*4*, *8*). Compounds identified from *Securidaca longepedunculata* previously include methyl salicylate (*9*), tannins (*10*), sucrose derivatives (*11*), phenolics (*12*) saponins (*13*, *14*), xanthones (*15*−*17*), and alkaloids (*18*, *19*). The aim of the present study was to evaluate the effect of the powdered root bark and methanol extracts of the root bark of this species against the Coleopteran stored product pests, *Sitophilus zeamais* Motchulsky and *Callosobruchus maculatus* F., up to 9 months after treatment of the stored commodity, and identify and elucidate structures of compounds responsible for the effects.

*Corresponding author. Tel: +44-208-332-5377. Fax: +44-20-8332-5310. E-mail: p.stevenson@kew.org.

MATERIALS AND METHODS

Reagents. Methanol (HPLC grade) and acetic acid (HPLC grade) were obtained from Merck (U.K.). All other chemicals were of analytical grade. Deionized water was obtained from an in-house Milli-Q Plus System (Millipore, Inc., Billerica, MA) at 18.2 MΩ.

Plant Material Extraction. *S. longepedunculata* roots were collected from Tamale in North Ghana (Royal Botanic Gardens, Kew ref

 Published on Web 09/21/2009 © 2009 American Chemical Society

From Stevenson et al., 2009 *Journal of Agricultural and Food Chemistry*, 57, 8860

farmers, is discussed.

KEYWORDS: *Securidaca*; saponins; oviposition deterrent; *Sitophilus*; *Callosobruchus*; bruchid

Background to research in paper

INTRODUCTION

Despite the commercial difficulties associated with the registration of plant compounds as agrochemicals, interest in pesticidal plants continues to grow (*1*,*2*). In the developed world, this is linked to increasing demand for organic produce, for which plant derived products are acceptable in pest control, despite examples such as rotenone having well-known mammalian toxicity (*3*). Effective alternatives to synthetic pesticides, however, are often a necessity rather than a choice for small-scale farmers in sub-Saharan Africa. This is because synthetic pesticides can be expensive, are often adulterated, are increasingly ineffective owing to pest resistance, and may be difficult to access reliably (*4*). At best, pesticidal plants provide low-cost, safer, and environmentally benign alternatives to synthetic pesticides.

Understanding why pesticidal plants are effective may facilitate the optimization of their use and therefore increase agricultural productivity, particularly among some of the world's poorest farmers (*5*). In this respect, we have investigated *Securidaca longepedunculata* Fresen. (Polygalaceae), a widespread tree of tropical African savannah, especially of Miombo and Caesalpinioid woodland. This species has a wide variety of indigenous uses including the protection of stored grain from weevil damage (*6*,*7*). The activity is reportedly associated with nonpolar compounds in the roots (*4*, *8*). Compounds identified from *Securidaca longepedunculata* previously include methyl salicylate (*9*), tannins (*10*), sucrose derivatives (*11*), phenolics (*12*) saponins (*13*, *14*), xanthones (*15*−*17*), and alkaloids (*18*, *19*). The aim of the present study was to evaluate the effect of the powdered root bark and methanol extracts of the root bark of this species against the Coleopteran stored product pests, *Sitophilus zeamais* Motchulsky and *Callosobruchus maculatus* F., up to 9 months after treatment of the stored commodity, and identify and elucidate structures of compounds responsible for the effects.

*Corresponding author. Tel: +44-208-332-5377. Fax: +44-20-8332-5310. E-mail: p.stevenson@kew.org.

MATERIALS AND METHODS

Reagents. Methanol (HPLC grade) and acetic acid (HPLC grade) were obtained from Merck (U.K.). All other chemicals were of analytical grade. Deionized water was obtained from an in-house Milli-Q Plus System (Millipore, Inc., Billerica, MA) at 18.2 MΩ.

Plant Material Extraction. *S. longepedunculata* roots were collected from Tamale in North Ghana (Royal Botanic Gardens, Kew ref

 © 2009 American Chemical Society

From Stevenson et al., 2009 *Journal of Agricultural and Food Chemistry*, 57, 8860

farmers, is discussed.

KEYWORDS: *Securidaca*; saponins; oviposition deterrent; *Sitophilus*; *Callosobruchus*; bruchid

Aim of present study

INTRODUCTION

Despite the commercial difficulties associated with the registration of plant compounds as agrochemicals, interest in pesticidal plants continues to grow (*1*, *2*). In the developed world, this is linked to increasing demand for organic produce, for which plant derived products are acceptable in pest control, despite examples such as rotenone having well-known mammalian toxicity (*3*). Effective alternatives to synthetic pesticides, however, are often a necessity rather than a choice for small-scale farmers in sub-Saharan Africa. This is because synthetic pesticides can be expensive, are often adulterated, are increasingly ineffective owing to pest resistance, and may be difficult to access reliably (*4*). At best, pesticidal plants provide low-cost, safer, and environmentally benign alternatives to synthetic pesticides.

Understanding why pesticidal plants are effective may facilitate the optimization of their use and therefore increase agricultural productivity, particularly among some of the world's poorest farmers (*5*). In this respect, we have investigated *Securidaca longepedunculata* Fresen. (Polygalaceae), a widespread tree of tropical African savannah, especially of Miombo and Caesalpinioid woodland. This species has a wide variety of indigenous uses including the protection of stored grain from weevil damage (*6*, *7*). The activity is reportedly associated with nonpolar compounds in the roots (*4*, *8*). Compounds identified from *Securidaca longepedunculata* previously include methyl salicylate (*9*), tannins (*10*), sucrose derivatives (*11*), phenolics (*12*) saponins (*13*, *14*), xanthones (*15*−*17*), and alkaloids (*18*, *19*). The aim of the present study was to evaluate the effect of the powdered root bark and methanol extracts of the root bark of this species against the Coleopteran stored product pests, *Sitophilus zeamais* Motchulsky and *Callosobruchus maculatus* F., up to 9 months after treatment of the stored commodity, and identify and elucidate structures of compounds responsible for the effects.

*Corresponding author. Tel: +44-208-332-5377. Fax: +44-20-8332-5310. E-mail: p.stevenson@kew.org.

MATERIALS AND METHODS

Reagents. Methanol (HPLC grade) and acetic acid (HPLC grade) were obtained from Merck (U.K.). All other chemicals were of analytical grade. Deionized water was obtained from an in-house Milli-Q Plus System (Millipore, Inc., Billerica, MA) at 18.2 MΩ.

Plant Material Extraction. *S. longepedunculata* roots were collected from Tamale in North Ghana (Royal Botanic Gardens, Kew ref

pubs.acs.org/JAFC Published on Web 09/21/2009 © 2009 American Chemical Society

From Stevenson et al., 2009 *Journal of Agricultural and Food Chemistry*, 57, 8860

The long term physical stability of emulsions can be assessed through the use of rheology [19]. In an authoritative review Tadros has shown how (i) steady state shear stress-shear rate, (ii) constant stress and (iii) oscillatory rheological measurements can be used to assess stability to creaming, flocculation, coalescence and phase inversion. The rheological properties of oil droplets dispersed in water and stabilised by surfactants have been extensively studied [20]. It has been shown that they exhibit a sharp transition from a liquid to a solid behaviour when the oil volume fraction, ϕ, reaches the random close packing volume fraction of hard spheres, $\phi^* = \sim 64\%$. When the emulsion is dilute, it behaves as a fluid whose viscosity increases with the oil volume fraction. Examination of how changes in emulsion composition can improve the elastic response to shear ought to be able to provide useful information about those compositions which enhance the physical stability of an emulsion.

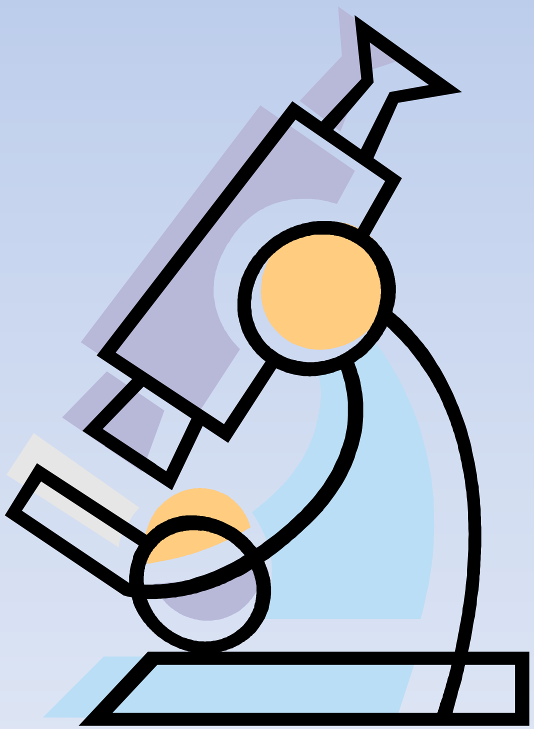
The Introduction

- Briefly explain your rationale and approach and, whenever possible, the possible outcomes your study can reveal.

The aim of the work reported herein was, therefore, to investigate the preparation and characterization of hexane-in-water emulsions stabilized by solid particles. Three different solids materials were employed for this purpose, namely silica sand, kaolin, and bentonite. The effect of particulate matter to fluid ratio, and the o/w ratio on emulsion stability was assessed. The effect of NaCl on the stability of the prepared emulsions was assessed in the concentration range of 0–0.5 M. In addition the use of a cationic surfactant (CTAB), as an aid to emulsion stability, was assessed in the compositional range of 0–0.05%. The emulsions were characterized using measurements of rheological properties which were subsequently used to assess the physical stability of the emulsions, directly after preparation and 4 weeks later.

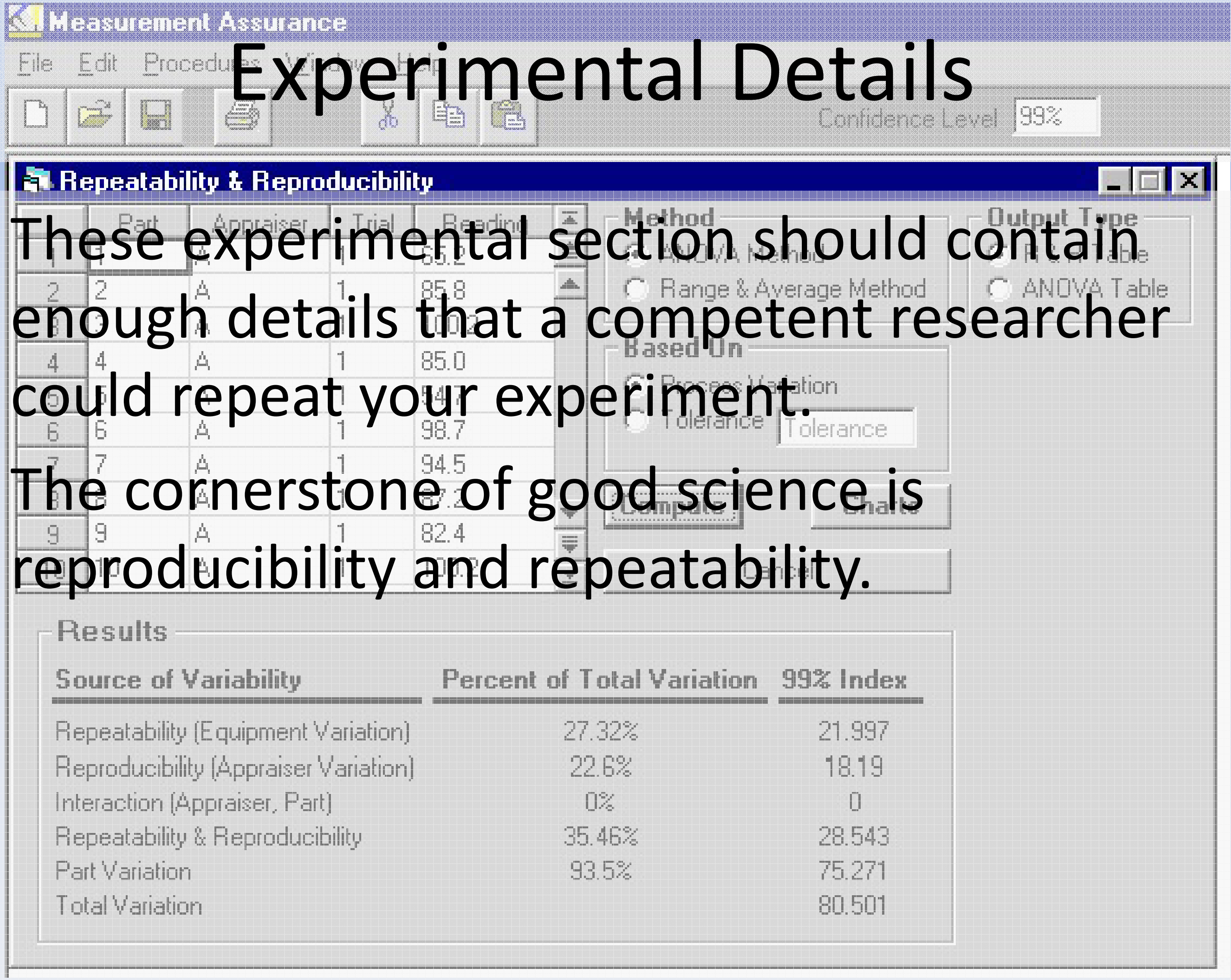
Experimental Details (Materials and Methods)

- This section of the paper ought to contain the following details where appropriate:
  - – Materials used;
  - – Organisms used
  - – Instruments used
  - – Experimental protocols

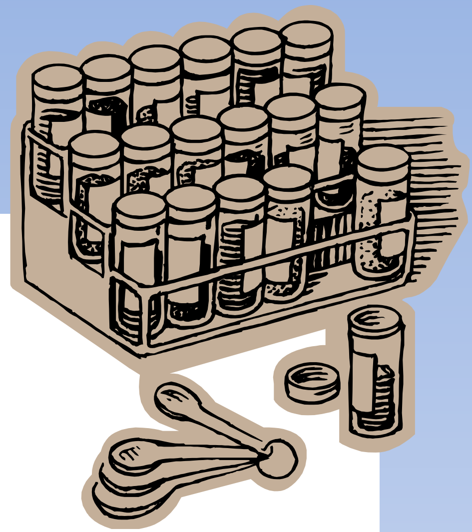


Experimental Details

- These experimental section should contain enough details that a competent researcher could repeat your experiment.
- The cornerstone of good science is reproducibility and repeatability.



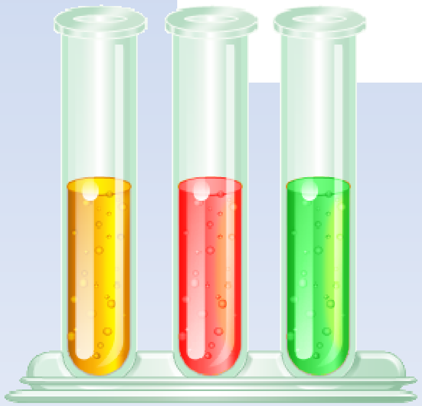
Materials



2. Experimental details

2.1. Materials

Silica sand – described by the manufacturer as low in iron, acid washed kaolin and bentonite (40–100 mesh) were obtained from Fisher Scientific UK Ltd., (Loughborough, UK). Hexadecyl-trimethylammonium bromide (CTAB) was obtained from Aldrich (Gillingham, UK). Hexane and reagent grade sodium chloride were obtained from BDH Ltd. (Poole, UK). Double distilled water was produced in our laboratories.



Experimental Methods

Manufacturer

Instrument used

2.2. *Emulsion preparation*

Emulsions were prepared using a Silverson L4R rotor-stator (*ex* Silverson Machines Ltd., Chesham, UK). Bentonite and water were placed in a plastic beaker followed by the addition of salt and CTAB. The rotor-stator was then placed in the beaker and using a high speed, creosote was slowly added over a 90–120 s period. Once all the hexane was added, the mixture was vigorously homogenized for a further 180 s. The total emulsion preparation time was ~300 s. Table 1 provides a compositional overview of all the emulsions prepared.

Use tables where they help clarify the narrative

Table 1
Parameters varied during the preparation of hexane-in-water emulsions

o/w ratio	Particles	Particle load (% w/w)	NaCl concentration (mM)	CTAB concentration (%, w/v)
40/60	Silica sand	0.5	0	0
30/70	Bentonite	1.0	0.001	0.005
20/80	Kaolin	2.0	0.01	0.01
10/90		3.0	0.05	0.05
		5.0	0.1	
			0.5	

Langmuir **1994**, *10*, 197–210

A New Class of Thiolipids for the Attachment of Lipid Bilayers on Gold Surfaces

Holger Lang, Claus Duschl, and Horst Vogel*

Institute of Physical Chemistry, Swiss Federal Institute of Technology, CH-1015 Lausanne, Switzerland

Received October 13, 1993®

Use diagrams to help clarify experimental details

Lang et al.

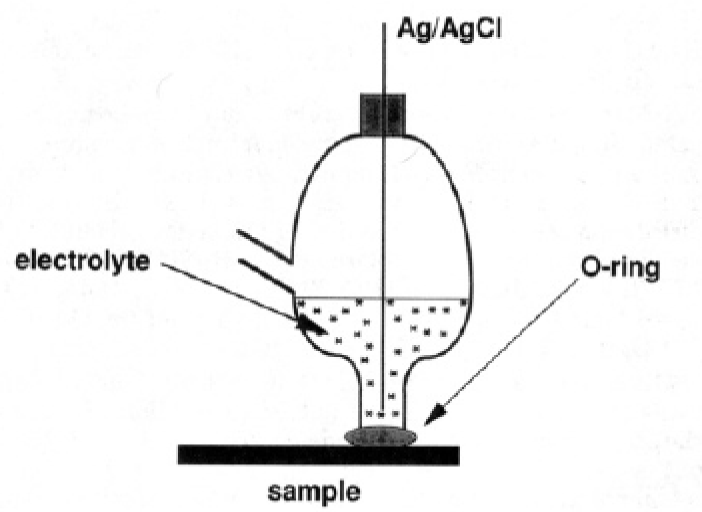


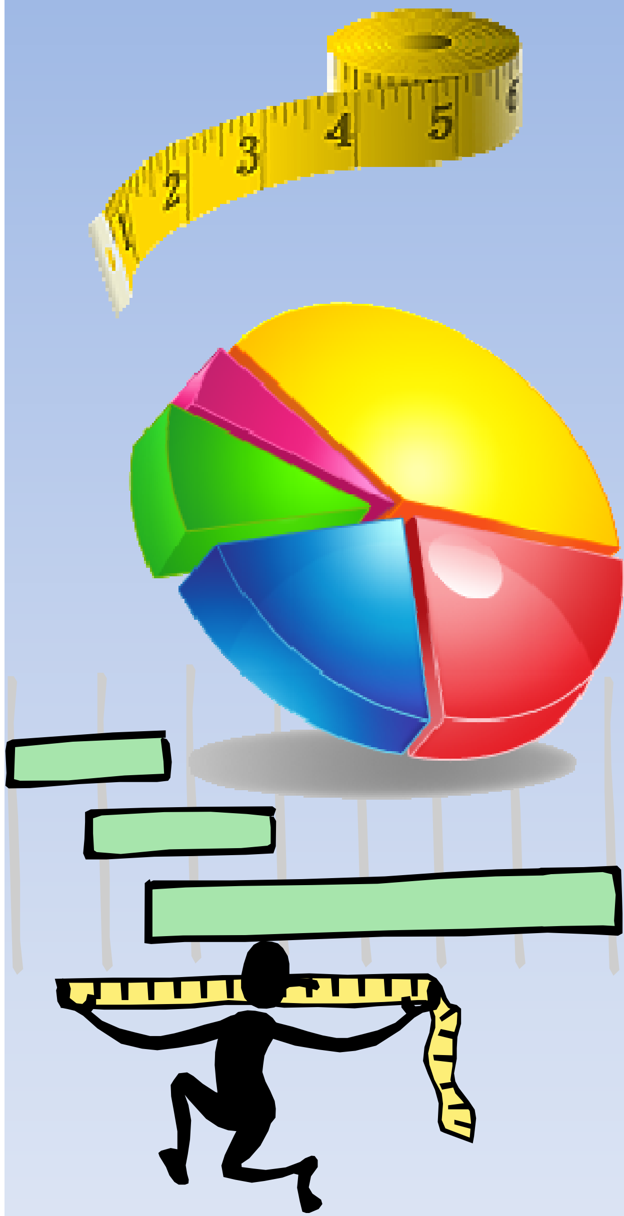
Figure 2. Diagram of the measurement cell for the electrochemical experiments.

2.3. *Physical measurements*

The rheology of hexane-in-water emulsions was characterised by means of the CS10 Controlled Stress Rheometer. Two different rheological measurements were made in order to characterise the emulsions. First, shear rate versus shear stress runs were applied to the emulsion samples over a shear rate range of 0.01–100 s^{-1}. Secondly, oscillatory rheological measurements were made in the linear viscoelastic region, using a cone and plate system (angle 4° and gap 40 mm). All measurements were carried out at room temperature (21 ± 1 °C)

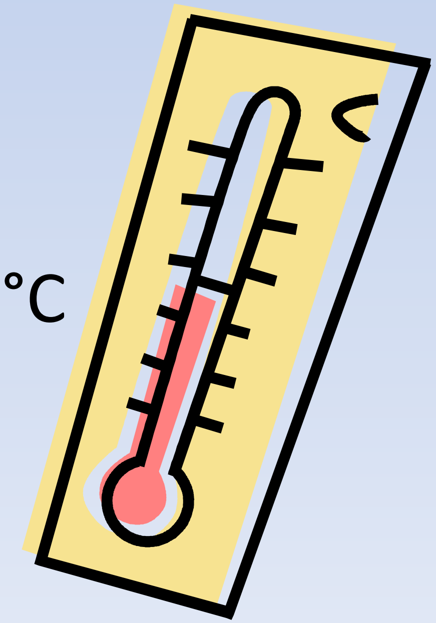
Particle sizes and ζ-potential were measured using a Zetasizer 3000 instrument (Malvern Instruments; Worcestershire, UK).

The du Nöuy ring detachment technique (White Instruments, Worcestershire, UK) was employed to measure surface tension. All measurements were made at a temperature of 25 ± 0.5 °C. Temperature control was maintained by a circulatory water bath. All glassware was soaked in alcoholic-KOH for 30 min and washed with hot water, and thoroughly rinsed with copious amounts of Milli-Pore water, then dried in a clean oven before use. The platinum du Nöuy ring was washed using alcoholic-KOH, rinsed in Milli-Pore water, and flamed until red-hot before each measurement. All measurements were made sufficiently slowly so as to ensure equilibrium conditions. The uncertainty in the IFT measurements was no greater than 0.2 mN m^{-1}.



Be precise

- When giving details of measurements such as the temperature of the oven be precise.
- Accurate methods allow your work to be repeated and verified by others.
- Which is better?
  - The experiment was carried out at room temperature!
  - The experiment was carried out at 23 ± 1°C

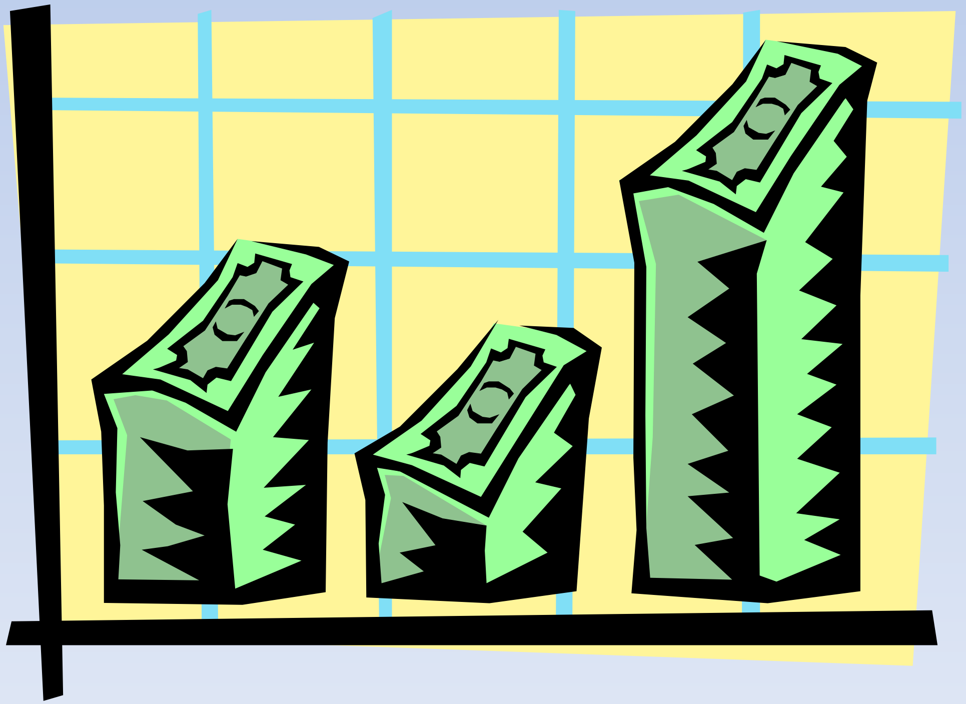


Grammar : Use the third person past passive voice.

Emulsions were prepared using a Silverson L4R rotor-stator (*ex* Silverson Machines Ltd., Chesham, UK). Bentonite and water were placed in a plastic beaker followed by the addition of salt and CTAB. The rotor-stator was then placed in the beaker and using a high speed, creosote was slowly added over a 90–120 s period. Once all the hexane was added, the mixture was vigorously homogenized for a further 180 s. The total emulsion preparation time was ~300 s. Table 1 provides a compositional overview of all the emulsions prepared.

Results

- Present your results clearly and HONESTLY
- When possible use tables and figures effectively



Results

- Do not repeat all of the information that appears in a table or figure in the text; but do summarize it.
- Draw out key points

Using Tables

- For example, if you present a table of temperature measurements taken at various times, describe the general pattern of temperature change and refer to the table.
- *"The temperature of the solution increased rapidly at first, going from 50º to 80º in the first three minutes (Table 1)."*

Using graphs

- Make graphs clear and provide them with a suitable caption.

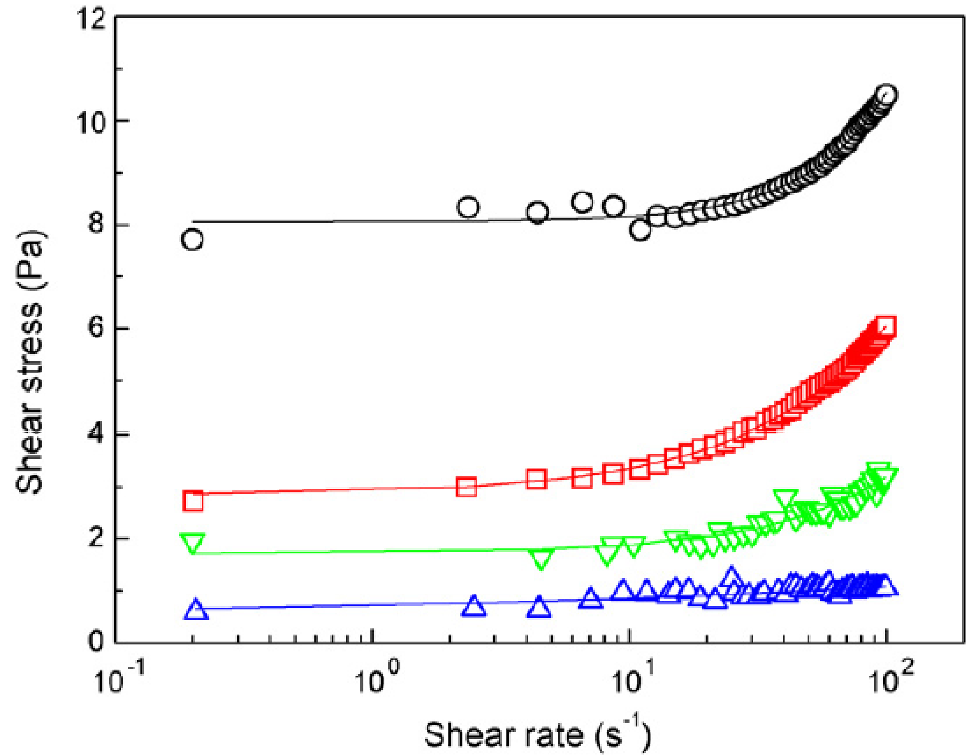


Fig. 6. A plot of shear stress as a function of shear rate for 30/70 hexane/water emulsions prepared with (△) 1%; (▽) 2%; (□) 3% and (○) 5% bentonite, 0.01% CTAB, and 0.01 M NaCl. The solid lines are the lines of best fit to the Herschel–Bulkeley mode l [37].

- They need to be able to stand alone

Results - only

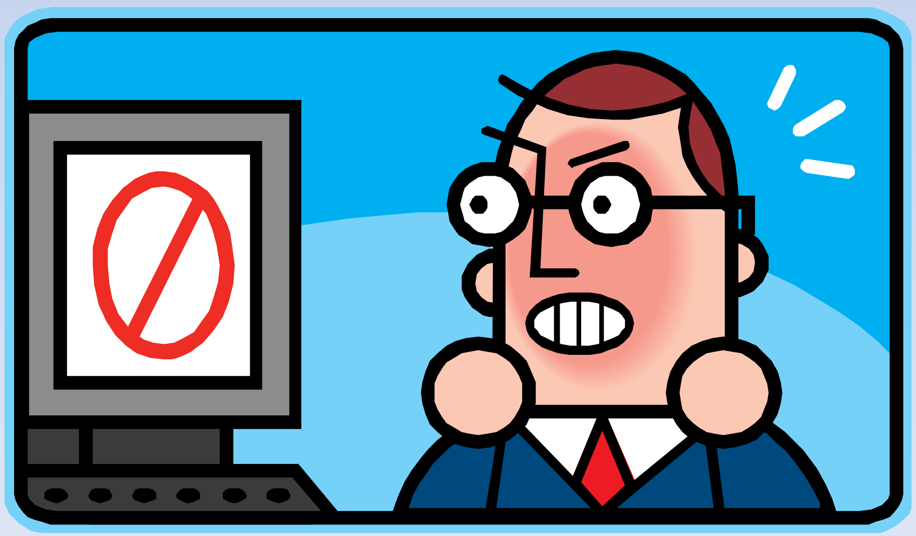
- Make sure you keep the results section just for results
- Some journals combine Results and Discussion

Discussion

- It is not enough to simply present your data again in a slightly different way
- Discuss their significance and implications.
- Discuss the meaning of individual results in this section; but wait until the conclusions section to tie everything together
- Conclusions are sometimes a separate section.

Issues that need discussion

- Were the results consistent with your expectations?
- Does experimental error account for any deviations between the results and your expectations?

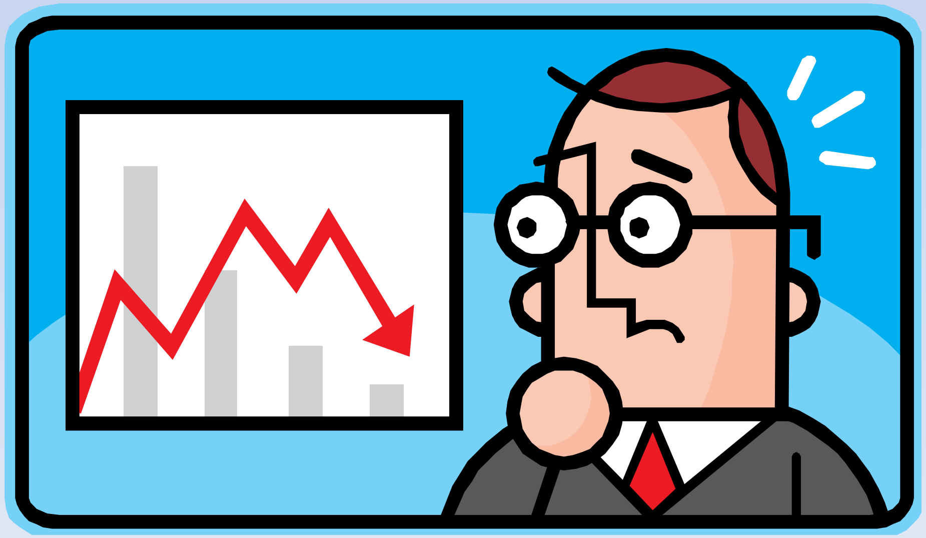


Issues that need discussion

- What underlying patterns or relationships exist in your results?
- Do these results support the hypothesis that you were testing?
- Do these results support the predictions/expectations in the literature?

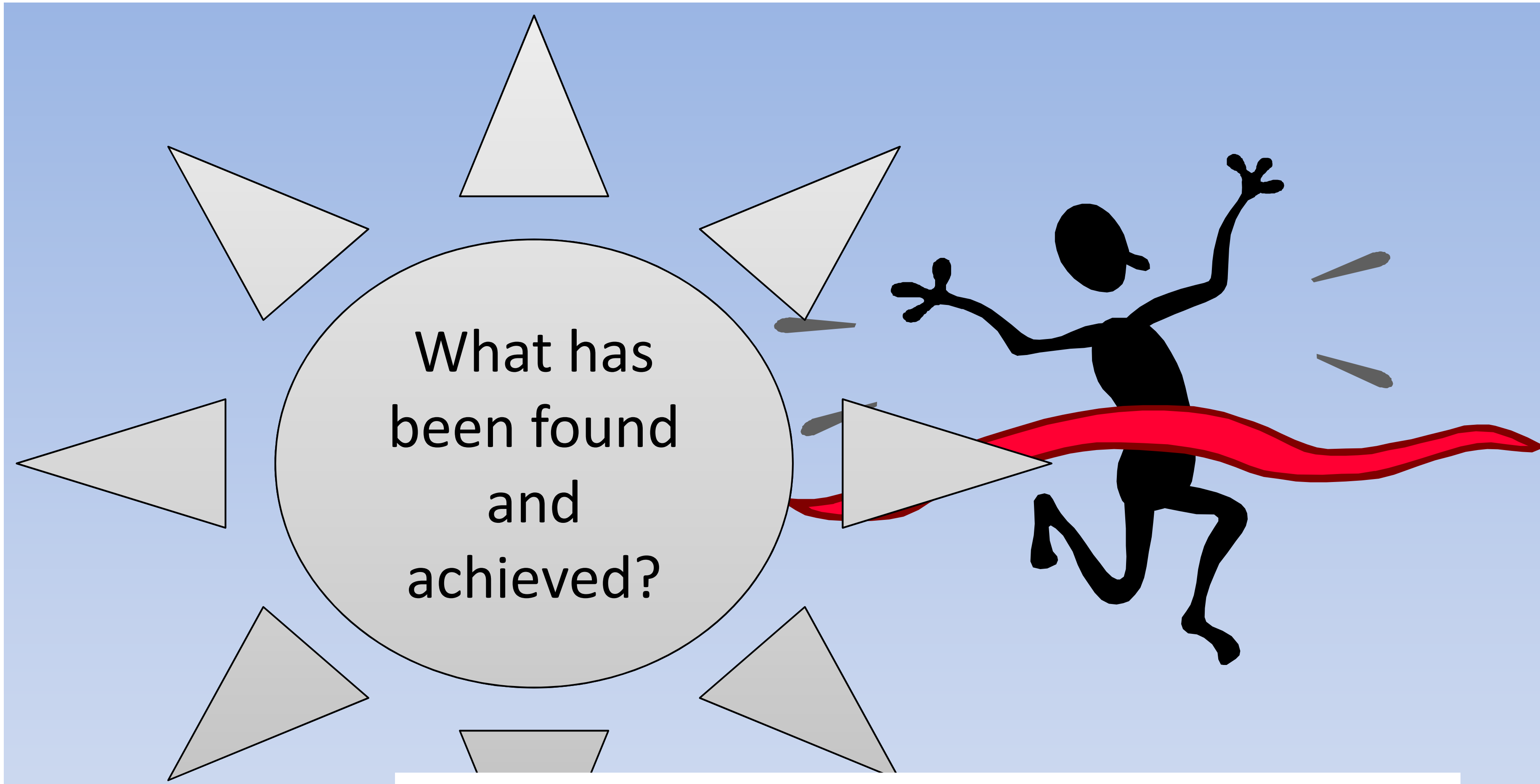
Don’t try to gloss over problems in your results.

- If your results show a smooth curve with an unexpected dip in the middle, avoid the temptation to gloss over the unexpected deviation – it may turn out to be the most important part of your data.



Discuss data treatment

- There are times when you have may developed a novel way of treating your data. This can go in the discussion section. Though sometimes it may go into a separate section.



4. Conclusions

Physically stable hexane-in-water emulsions have been prepared using bentonite as the emulsion stabiliser which has modified by the addition of the cationic surfactant CTAB, and dilute sodium chloride. Under appropriate compositional conditions the emulsions develop an elastic network which provides the emulsions with good long term stability to coalescence.

Acknowledgements

- If you received any significant help in thinking up, designing, or carrying out the work; or received free materials from someone you must acknowledge their assistance and the service or material provided.
- Although usual style requirements (e.g., 1st person, objectivity) are relaxed somewhat here – “Acknowledgments” are always brief and never flowery.

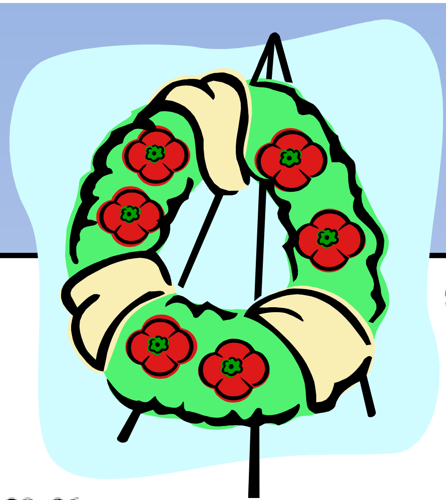
Acknowledgement We gratefully acknowledge the Higher Education Funding Council for England for funding and the generous advice and assistance of Prof. David Hall, Dr. Geoffrey Kite and Dudley Farman in the chemical analysis.

ELSEVIER

Thermochimica Acta 359 (2000) 29–36

thermochimica acta

www.elsevier.com/locate/tca



Identification and deconvolution of dissociation and aggregation transitions during thermally induced micellisation in aqueous solutions of ethylene oxide–propylene oxide–ethylene oxide block copolymers

Babur Z. Chowdhry[a,b], Martin J. Snowden[a,b], Cecilia MacLeod[c], Stephen A. Leharne[b,c,*]

[a]*School of Chemical and Life Sciences, University of Greenwich, Wellington Street, Woolwich, London SE18 6PF, UK*

[b]*Biocalorimetry Centre, Medway Sciences, University of Greenwich, Central Avenue, Chatham Maritime, Kent ME4 4AW, UK*

[c]*Centre for Contaminated Land Remediation, School of Earth and Environmental Sciences, University of Greenwich, Central Avenue, Chatham Maritime, Kent ME4 4AW, UK*

Received 1 December 1999; received in revised form 21 February 2000; accepted 21 February 2000

Dedicated to the memory of our friend and colleague Shaun Donoghue, tragically killed in the Paddington Train Disaster.

References

- All the citations in the corpus of the text need to be identified in the reference list placed at the end of the paper.

References

[1] S.J. Han, T. Hyeon, Chem. Commun. (1999) 1955–1956.
[2] H.P. Hentze, S.R. Raghavan, C.A. McKelvey, E.W. Kaler, Langmuir 19 (2003) 1069–1074.
[3] K. Landfester, Macromol. Rapid Commun. 22 (2001) 896–936.
[4] T. Welzel, W. Meyer-Zaika, M. Epple, Chem. Commun. (2004) 1204–1205.
[5] S.U. Pickering, J. Chem. Soc. Trans. 91 (1907) 2001–2021.
[6] E. Vignati, R. Piazza, T.P. Lockhart, Langmuir 19 (2003) 6650–6656.
[7] S. Tarimala, L.L. Dai, Langmuir 20 (2004) 3492–3494.
[8] E.J. Stancik, G.G. Fuller, Langmuir 20 (2004) 4805–4808.
[9] J. Giermanska-Kahn, V. Schmitt, B.P. Binks, F. Leal-Calderon, Langmuir 18 (2002) 2515–2518.
[10] B.P. Binks, S.O. Lumsdon, Langmuir 16 (2000) 8622–8631.
[11] B.P. Binks, S.O. Lumsdon, Langmuir 17 (2001) 4540–4547.
[12] R. Aveyard, B.P. Binks, J.H. Clint, Adv. Colloid Interf. Sci. 100–102 (2003) 503–546.
[13] J.F. Dong, B.Z. Chowdhry, S.A. Leharne, Colloid Surf. A: Physicochem. Eng. Aspects 212 (2003) 9–17.
[14] G. Lagaly, M. Reese, S. Abend, Appl. Clay Sci. 14 (1999) 83–103.
[15] G. Kaptay, Colloids Surf. A: Physicochem. Eng. Aspects 282–283 (2006) 387–401.
[16] N. Romero, A. Cardenas, M. Henriquez, H. Rivas, Colloid Surf. A: Physicochem. Eng. Aspects 204 (2002) 271–284.
[17] B.P. Binks, J.H. Clint, C.P. Whitby, Langmuir 21 (2005) 5307–5316.
[18] M.-D. Lacasse, G.S. Grest, D. Levine, T.G. Mason, D.A. Weitz, Phys. Rev. Lett. 76 (1996) 3448–3451.

References

- Ensure that the formatting of the citations in the text and reference list conform with the style of the journal your article will be sent to.
- This really bugs editors – get it right!
- Laziness here could tempt a referee to assume laziness elsewhere in carrying out the work or even collating results.
- Every part of your written work gives an impression of your overall scientific calibre.

1. Introduction

Chlorinated hydrocarbon solvents (CHSs) have been widely used in a variety of industrial and cleaning processes since the 1930s and are now, as a result, amongst the most common and insidious of groundwater contaminants (Lohman, 2002; Mackay and Cherry, 1989). This situation has arisen principally because of frequent spillage, leakage from underground storage tanks, disposal to ground by industrial users, and their unique physicochemical properties (Kueper et al., 2003; Mackay and Cherry, 1989; Mercer and Cohen, 1990).

Name and date

References

Anderson, W.G., 1986a. Wettability literature survey: 1. Rock–oil–brine interactions and the effects of core handling on wettability. J. Pet. Technol. 38 (11), 1125–1144.

Anderson, W.G., 1986b. Wettability literature survey: 2. Wettability measurement. J. Pet. Technol. 38 (12), 1246–1262.

Anderson, W.G., 1987. Wettability literature survey: 4. Effects of wettability on capillary-pressure. J. Pet. Technol. 39 (10), 1283–1300.

Archer, W.L., 1996. Industrial Solvents Handbook. Marcel Dekker Inc, New York.

Atkin, R., Craig, V.S.J., Biggs, S., 2000. Adsorption kinetics and structural arrangements of cationic surfactants on silica surfaces. Langmuir 16 (24), 9374–9380.

1. Introduction

Chlorinated hydrocarbon solvents (CHSs) have been widely used in a variety of industrial and cleaning processes since the 1930s and are now, as a result, amongst the most common and insidious of groundwater contaminants (Lohman, 2002; Mackay and Cherry, 1989). This situation has arisen principally because of frequent spillage, leakage from underground storage tanks, disposal to ground by industrial users, and their unique physicochemical properties (Kueper et al., 2003; Mackay and Cherry, 1989; Mercer and Cohen, 1990).

List in alphabetical order

References

Anderson, W.G., 1986a. Wettability literature survey: 1. Rock–oil–brine interactions and the effects of core handling on wettability. J. Pet. Technol. 38 (11), 1125–1144.

Anderson, W.G., 1986b. Wettability literature survey: 2. Wettability measurement. J. Pet. Technol. 38 (12), 1246–1262.

Anderson, W.G., 1987. Wettability literature survey: 4. Effects of wettability on capillary-pressure. J. Pet. Technol. 39 (10), 1283–1300.

Archer, W.L., 1996. Industrial Solvents Handbook. Marcel Dekker Inc, New York.

Atkin, R., Craig, V.S.J., Biggs, S., 2000. Adsorption kinetics and structural arrangements of cationic surfactants on silica surfaces. Langmuir 16 (24), 9374–9380.

1. Introduction

Ethylene oxide–propylene oxide–ethylene oxide block copolymeric surfactants — commonly called poloxamers, synperonics or pluronics — are widely used as laundry aids, detergents, dispersion stabilisers, emulsifiers, solubilising agents and controlled release agents in the pharmaceutical industry, bio-processing aids and components in ink production [1]. These surfactants are ABA block copolymers; the structure of which is as follows:

$$HO-(CH_2-CH_2-O)_n-(CH_2-\underset{\displaystyle CH_3}{\underset{|}{CH}}-O)_m-(CH_2-CH_2-O)_n-H$$

* Corresponding author. Tel.: +44-208-331-9565; fax: +44-208-331-9805.
E-mail address: s.a.leharne@gre.ac.uk (S.A. Leharne)

Numbered references

References

[1] P. Alexandridis, T.A. Hatton, Colloids Surfaces A: Physicochem. Eng. Aspects 96 (1995) 1 and references therein.
[2] R. Kjellander, E. Florin, J. Chem. Soc., Faraday Trans. I 77 (1981) 2053.
[3] G. Karlström, J. Phys. Chem. 89 (1985) 4962.
[4] W.-D. Hergeth, I. Alig, J. Lange, J.R. Lochmann, T. Scherzer, S. Wartewig, Makromol. Chem. Macromol. Symp. 52 (1991) 289.
[5] M. Björling, G. Karlström, J Linse, J. Phys. Chem. 95 (1991) 6706.
[6] J. Rassing, W.P. McKenna, S. Bandyopadhyay, E.M. Eyring, J. Mol. Liquid 27 (1984) 165.
[7] P. Alexandridis, V. Athanassiou, S. Fukuda, T.A. Hatton, Langmuir 10 (1994) 2604.
[8] B. Chu, Langmuir 11 (1995) 414.

List in numerical order

Reviewers guidelines - *Phytochemistry*

- Please examine the paper with reference to the questions on this form

(1) Does the paper fall within the scope of the journal?

(2) Is it a new and original contribution?

(3) Are there any assumptions made which you consider unjustifiable?

Reviewers guidelines – *Phytochemistry 2*

(4) Are there any apparent errors of fact or logic?

(5) Is the length of the paper in keeping with its importance?

(6) Are the Titles and Abstract informative?

(7) Is the English satisfactory?

Reviewers guidelines – *Phytochemistry 2*

Please add below any additional COMMENTS that you may have for the Editor:

Phytochemistry

- REJECT
- This paper describes three new benzofurans from *Anotherus plantus*. The structures are secure but represent trivial variants of known compounds. Since the authors have already published two papers in this series and announce their intention of looking at other parts of this plant I suggest that they include these compounds in a subsequent publication of more substance.

Bichemical Systematics and Ecology

- REJECT
- Larvicidal effects of essential oil and methanolic extract of *A plant……*
- Bloggs et al.
- This manuscript describes a single bioassay of essential oil and methanolic extract against *Echinococcus granulosus*. Despite being a new biological activity the manuscript is too insubstantial for BSE and lies outside the scope of the journal.

- The abstract gives the impression that the authors have actually analysed the essential oil but in fact authors simply include write data published elsewhere (Ahmadi 2010). (Plagiarism). (Hood winking editors)

- The bioassays are presented with no statistical analysis to demonstrate variation in the data and no scientific evidence is provided to substantiate claims about the compounds purported to be responsible for the biological activity.

BSE / 10-XXX Major revision (probably should have been reject...)

- Hydroxywithanolide as a chemical resistance of Cape Gooseberry against herbivory.
- Bloggs et al.
- This manuscript describes a comprehensive analysis of cape gooseberry for 4-beta hydroxywithanolide.
- The paper has demonstrated this compound occurs in the plant at higher concentrations in roots than in leaves in mature plants but at lower concentrations in roots than in leaves in seedlings and asserts this is to do with their role in resistance
- The paper is far too long and makes what is a fairly simple outcome is made too complicated.
-

BSE / 10-XXX Major revision (probably should have been reject...)

- *The introduction*.
- The introduction needs to be shortened by at least half and the text needs to be relevant to the research activities that will be covered in the text. Presently it is more like a review of strategies to reduce resistance costs.
-
- *The methods*
- Similarly, the methods are far too long. Attempt to reduce by at least half. The introduction spills over in to methods. The authors need to shorten this to the absolute minimum. E.g. cite previous uses or combine repeated uses of same method
-
- The methods contain results and introduction.
-
- NMR data for 4beta hydroxywithanolide and physapruin has been already published elsewhere so not required here. It is welcome as supplementary information but not for publication.

BSE / 10-XXX Major revision (probably should have been reject...)

- *Results:*
- Results should be much more concise. Combine sections.
- Logic fails with insects pests chosen to test *Physalis* resistance compounds because they are not pests of *Physalis*. *Epilachna* is a specialist bean beetle, *Tribolium castaneum* feeds on flour and grain (not Physalis) no record of *Spodoptera littoralis* being a pest of *Physalis.*
-
- *Discussion*
- Again too long by at least half. A simple result is over-complicated. The extrapolation of the results to highly significant implications is largely unconvincing and may be made more so by a considerable reduction in the text to the salient points.
- Figures are excessive and most can be described in the results without the need for a table. E.g. Table 1 to 5 could be omitted and simply described in a few words in the text as could Figure 5. Figures need indication of statistics used including error bars.

Accepted with revision

- Address the comments of the referee
- Be conciliatory
- Be assertive
- Do what you’ve been asked if it means the difference between publishing and not.
- Provide the editor a clear inventory of changes to original manuscript.
  - Thoroughness here is a helpful for the editor

Proofs – proof reading

- And just when you thought you couldn't read a page of the work one more time……. …..the galley proofs arrive with 24 hours to return them

- If you miss a typo now it now it will be ever thus!

- Proof read your manuscript at least twice

Key approaches to writing: being read successfully

- Clear & Concise with Critical thinking (of your own and cited work).
- Put yourself in the readers (referees) position
  - Don't make assumptions about knowledge
  - Establish in-house editorial groups
  - Get colleagues to read your work – get feedback
  - Read colleagues work in return.
- Put manuscript in drawer for 2 weeks and re-read it – helps to give new perspective.

More information

- Bates College
- Colorado State University
- Columbia University
- WHO
- Scribe Consulting