As well as publishing over 50 papers in international refereed journals, I have a lot of experience reviewing other people's work.

I was on the editorial advisory board of the Journal of Experimental Botany for over 10 years.

I was/still am a regular reviewer of manuscripts submitted to Journal of Experimental Botany.
My last review request was for Journal of Experimental Biology in November, and already the review reminder emails are coming in!

Over the years I have also reviewed manuscripts regularly for
Plant, Cell and Environment
Plant Physiology
Plant Growth Regulation
Theoretical and Applied Genetics
Journal of Agricultural Sciences, and so on ….

- Impact factors
- Different types of papers
- Choosing a journal
- Instructions for authors
- Writing the text
- Tidying it up
- The review process
- Examples of review comments

Tomorrow morning I shall comment on some manuscript texts from you.

From your experiences, what are (or what would be) your biggest challenges in publishing your research in an international journal?

Scientific publications

This is your starting point:

What you actually did	→	A publication in a good journal

Therefore, your starting point was the research itself.

So, first you need to know whether what you actually did is worth a paper in an international journal.

The tale of the lost traveller and the Irish cowherd.

Irish cowherds are very wise people!

OK, so what's the story all about?

Here's the lost traveller, and ….

A typical wise Irish cowherd:

As director of a bureau helping Serbian scientists write successful research proposals for FP7*, I have to know whether their research is suitable for writing into a proposal.

I need to know whether it is good enough quality to succeed in FP7. So, I need to have the wisdom of an Irish cowherd: like the one shown in the previous slide.

* FP7 is EU Framework Programme 7 - over €52 billion for research, training and support actions from 2007 to 2013.

"Ah, to be sure, my young man, if I were you, I wouldn't be starting from here!"

So, here was the truth.**

You can't write good quality scientific papers if you're not already doing -
• good quality research, with
• good quality experimental design, to achieve
• good quality data to analyse and interpret!

[The Irish are very wise, like the railway level crossing keeper who left one gate open because he was half-expecting a train!]

We have an expression "you can't make a silk purse from a sow's ear"!

i.e. you can't make something wonderful from poor quality starting materials.

Another way to say you can't make a good quality paper if you didn't do good quality experiments!

Let us assume you are starting from the right place!

Good research:

Good research was described in the previous module:
Identifying all the ***factors*** to get to the ***truth***.

If your research wasn't good quality then your manuscript is unlikely to be accepted.

But it needs more than this -
It needs ***international*** interest and appeal
- more on this in a moment

International journals give you more *impact*!

Impact factors**:

The higher you aim with impact factors, the more difficult it is in general to publish.

Two journals with very high impact factors are Nature (IF ~34) and Science (IF ~30).

In Serbia, the impact factor of a journal determines its Ministry M factor (M21, M22, M23, and so on).

For example: M21 = 8, M22 = 5, M23 = 3 points.

** Journal impact factor is calculated over a three-year period, and can be considered to be the mean number of times published papers are cited up to two years after publication.

Your total M factor value is important for your promotion, taking part in Ministry projects, etc. Mine is around 475.

Most M21 journals (top 30%) are in the range for
- **medical sciences journals up to 50!**
- **physical sciences: 1.4 - 12**
- **nutrition and dietetics: 2.8 - 8**
- **business: 1.8 - 7**
- **psychology: 1.6 - 7**
- **food sciences and technology: 1.6 - 4**
- **social sciences: 1 - 3**
- **economic sciences from 0.5 to 4**

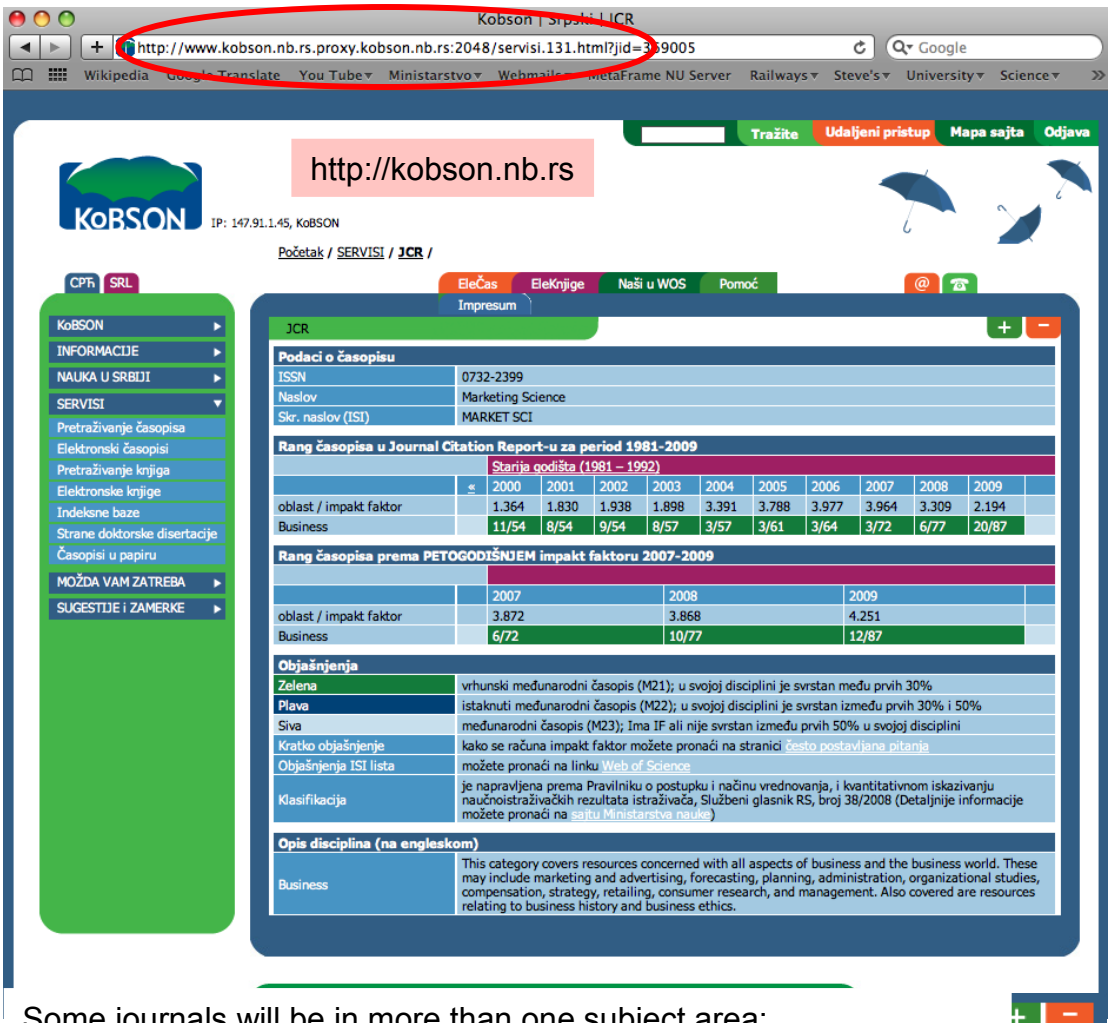
Do not worry about differences of impact factor across subjects!

This just reflects how popular a particular subject is:
- medical and molecular biological sciences very popular
- economics, agriculture and sociology not very popular!

It is where the journal ranks within its subject area that matters!

So, within your subject area, aim for a journal with an impact factor in the top 30% of journals. IFs can be downloaded here:
http://download.clib.psu.ac.th/datawebclib/impact_factor/impact2008.xls

Nature and Science have very high impact factors because they both cover every science subject.



Some journals will be in more than one subject area:

Podaci o časopisu

ISSN	0379-864X
Naslov	Chemical Senses
Skr. naslov (ISI)	CHEM SENSES

Rang časopisa u Journal Citation Report-u za period 1981-2009

	«	Starija godišta (1981 – 1992) 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
oblast / impakt faktor		2.176	2.647	2.526	2.691	2.594	2.506	1.608	1.896	3.041	3.031
Behavioral Sciences		10/39	8/39	12/39	12/40	11/41	19/42	33/43	31/45	13/47	19/49
Food Science & Technology		2/94	1/93	1/92	1/94	2/94	3/93	23/96	21/103	5/107	7/118
Neurosciences		79/203	60/198	68/197	74/198	78/198	92/200	142/199	137/211	86/221	102/230
Physiology		26/76	22/74	24/73	21/74	22/73	30/75	48/79	42/78	25/74	30/75

You choose the subject area that corresponds to your official research title.

ISSN	0306-9192
Naslov	Food Policy
Skr. naslov (ISI)	FOOD POLICY

Rang časopisa u Journal Citation Report-u za period 1981-2009

	«	Starija godišta (1981 – 1992) 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
oblast / impakt faktor		0.306	0.434	0.458	0.692	0.532	0.609	0.942	1.056	1.351	1.606
Agricultural Economics & Policy		7/8	4/8	4/8	3/8	4/8	5/9	2/9	2/9	1/9	1/11
Economics		123/166	99/165	95/166	71/169	88/172	89/175	61/175	50/191	46/209	41/245
Food Science & Technology		73/94	65/93	61/92	43/94	53/94	54/93	44/96	44/103	40/107	33/118
Nutrition & Dietetics		40/51	39/50	39/50	41/53	42/53	43/53	40/54	42/56	38/59	40/66

Here are journals identified as relevant to the FOCUS-BALKANS project:

Journal title (Acceptance rate %)	IF	Journal web address
Nature	34.48	www.nature.com/nature/index.html
Science	29.75	www.sciencemag.org/site/about/index.xhtml
American journal of clinical nutrition (25%)	6.307	www.ajcn.org/site/misc/about.xhtml
Journal of Consumer Psychology (11%)	5.352	www.elsevier.com/wps/find/journaldescription.cws_home/ 713950/description
American journal of public health (19%)	4.371	http://ajph.aphapublications.org/misc/about.dtl
International journal of obesity	4.343	www.nature.com/ijo/about.html
Journal of Marketing	3.779	www.marketingpower.com/AboutAMA/Pages/AMA%20Publications/
Critical reviews in food science and nutrition	3.725	www.tandf.co.uk/journals/bfsn
Health psychology	3.462	www.apa.org/pubs/journals/hea/
Journal of Marketing Research	3.099	www.marketingpower.com/AboutAMA/Pages/AMA%20Publications/AMA%20Journals/
Chemical senses	3.031	www.oxfordjournals.org/our_journals/chemse/about.html
Journal of Consumer Research	3.021	www.jstor.org/page/journal/jconsrese/about.html
Appetite	2.582	www.elsevier.com/wps/find/journaldescription.cws_home/622785/description#description
Marketing Science	2.194	www.informs.org/Pubs/MktSci
Journal of Consumer Affairs	2.175	www.wiley.com/bw/journal.asp?ref=0022-0078&site=1
Food quality and preference	1.941	www.elsevier.com/wps/find/journaldescription.cws_home/405859/description#description
International Journal of Research in Marketing	1.873	www.elsevier.com/wps/find/journaldescription.cws_home/505550/description
Food policy	1.606	www.elsevier.com/wps/find/journaldescription.cws_home/30419/description#description
Journal of nutrition education and behavior	1.356	www.elsevier.com/wps/find/journaldescription.cws_home/706788/description#description
Journal of Dairy research	1.343	http://journals.cambridge.org/action/displayJournal?jid=DAR
Psychology and Marketing	1.340	http://eu.wiley.com/WileyCDA/WileyTitle/productCd-MAR.html
European Journal of Marketing	0.756	www.emeraldinsight.com/products/journals/journals.htm?id=ejm
British food journal	0.752	www.emeraldinsight.com/journals.htm?issn=0007-070X
Cereal Foods World	0.642	www.aaccnet.org/cerealfoodsworld/default.asp

OK, so let's focus on how you should write a good-quality manuscript of your own with some general comments ...
Let's start by deciding where to publish.

<u>Deciding where to publish:</u>

Choose a journal that is suitable for the research you want to publish.
This is not as straightforward as it might seem!
Decide who is most likely to want to read about your work.

Whatever the subject of your research decide what type of paper you want it to be:
- progress in studying a particular process.
- developing a new theory on predicting choice.
- about an improved technique for something.
- reviewing other people's results.

Scientific publications:

There are basically four types of paper:

1. A research paper which will set up a hypothesis and then test it.
2. A purely descriptive paper that is describing something new.
3. A techniques paper on developing a new/improved technique for something.
4. A review paper describing and discussing what other people have done.

To be suitable for publishing in an international journal -

1) a research paper needs:

- **one or more hypotheses to be tested,**
- **clearly-defined aims, saying why the research needs to be done,**
- **replicated experiments (with exceptions)**
- **results that match the aims**
- **interpretation to test the hypotheses.**

- **short communications**

(Usually easier to write and quicker to publish.)

2) a purely descriptive paper needs:

- **a clearly-defined reason explaining why the work needed to be done,**
- **a reason why it is of *international* importance to know about this,**
- **interpretation of the findings to put them into the context of similar work done elsewhere.**

3) a techniques paper needs:

- **a clearly-defined reason saying why the new technique was necessary,**
- **a sufficiently detailed description of the technique (including validation) for others to use it as a protocol,**
- **detailed comparison with existing techniques to show how the new technique is better/differs.**

Scientific publications (4):

To be suitable for publishing in an international journal -

4) a review paper needs:

- **a clearly-defined subject area that hasn't been reviewed recently,**
- **a comparison of findings of others, usually including your own work,**
- **including the latest research findings, plus where possible papers in press,**
- **an opportunity for you to publish data otherwise not suitable for publication!**

Scientific review publications:

Note that review papers in review journals will usually give you a high impact factor!

Annual Reviews of Immunology - 41.1
Nature Reviews: Cancer - 30.8
Academy of Management Review - 7.9
Advances in Experimental Social Psychology - 6.1
Critical Reviews in Food Science & Nutrition - 3.7
Review of Economic Studies - 2.6
Annual Review of Sociology - 2.2

i.e. in Serbia M21 journals (8 points)!!

Journal information for authors:

Always start by reading the journal's Instructions for Authors - either inside the journal cover or on the journal web-site.

First, to identify whether it is the right journal for your paper:

Information for authors (1):

European Journal of Marketing will publish research that is:
❖ based on rigorous, high quality scholarly work of **international standing**,
❖ from a diverse range of methodological, philosophical and theoretical approaches,
❖ **well written and of clear relevance and interest to marketing scholarship**

Instructions for authors (cont.):

European Journal of Marketing:

The EJM is receptive to controversial topics, …. EJM will be particularly receptive to the development and testing of new theories, as long as they fill the rigour criteria detailed above. **The EJM will not generally be receptive to pure opinion or unsupported conjecture**, although viewpoint and commentary articles are welcome where they can meet appropriate standards of rigour. … **The EJM is also receptive in principle to the submission of replication studies**, where they are able to demonstrate a clear and substantive contribution to existing marketing knowledge.

International Journal of Research in Marketing:

International Journal of Research in Marketing is an **international, double-blind peer-reviewed journal** for marketing academics and practitioners. … *IJRM* aims to contribute substantially to the field of marketing research by providing a high-quality medium for the dissemination of new marketing knowledge and methods.

The editors, while accepting a wide array of scholarly contributions from different disciplinary approaches, especially **encourage research that is *novel*, *visionary* or *pathbreaking*.** Replications and **very minor improvements of methods or theories will generally not be publishable**. All submissions must be **interesting**, relevant to marketing, **sufficiently rigorous both conceptually and methodologically, and written in clear, concise and logical manner. For non-native English speakers, the use of a *copy-editor* is strongly encouraged.**

British Food Journal provides a vehicle for the dissemination of food-related research of the highest academic quality to an **international multi-disciplinary audience.**

1. Work on any aspect of food will be considered for publication provided it is of a high academic standard.
2. **Authors should take into account the international readership of the journal when drafting papers.**
3. The aim of the journal is to present work in a manner which is accessible to a **readership from a variety of backgrounds, including** different academic disciplines and **non-academics.**

Thus, where research of a highly technical nature is reported, the text should be written in a form which is **clear to non-specialists in the area of enquiry**. However, if required for clarification, the text can be supported by a technical annexe at the end of the paper. Where possible, **authors should spell out the implications of their work for those who produce and retail food and regulate the food system.**

Other comments from journal information for authors

Descriptive reports, *in which no specific hypothesis is tested* are ***unlikely to be accepted***.

Field-study results are more likely to be accepted if they use more than a single technique of data collection and analysis.

Papers must be original research and *must not have already been published or be under consideration for publication elsewhere.*

Work published in abstract form or presented orally is not considered previously published.

Papers containing a poor standard of English language are less likely to be considered for review.

Time for a break and then a manuscript review exercise.

You've had (I hope!) a read through the manuscript I gave you on drought responses in maize.

What suggestions do you have on ways in which this could be improved?

I'll give you my comments later ...

So, having sorted out the drought manuscript, now let's start writing your manuscript ...

But first, once you've decided which journal you will submit the paper to, make sure you read carefully *all* the journal's Instructions to Authors for writing the text!

These will tell you how to format the manuscript correctly.

Journal of Nutrition Education and Behavior

Instructions for Authors:

Manuscript preparation

• Manuscripts (including the main text, references, and figure legends) should be saved without a title page as a single file, and should be prepared in a 12-point typeface, double-spaced and with 1-inch margins throughout. [Note imperial units are used.]

• Beginning with the Introduction, each manuscript page is numbered in the upper right-hand corner and each line is numbered consecutively.

• First-level headings are centered on the page, typed in all-capital letters, bolded, and followed by two blank lines. Second-level headings begin flush with the left margin, have each word capitalized, are bolded, and are followed by one blank line. Third-level headings …

• Third level headings are only used in Research Articles.

Chemical Senses

Instructions for Authors:

Manuscript preparation

• Prepare your manuscript text using a Word processing package (save in .doc or .rtf format).
• Use double spacing … throughout the manuscript and leave margins of 25 mm (1 inch) at the top, bottom and sides of each page.
• Number each page.
• Please avoid footnotes; use instead, and as sparingly as possible, parenthesis within brackets.
• Enter text in the style and order of the journal.
• Type references in the correct order and style of the journal.
• Use the TAB key once for paragraph indents.
• Mark the approximate position of each figure and table.

Human Relations

Instructions for Authors:

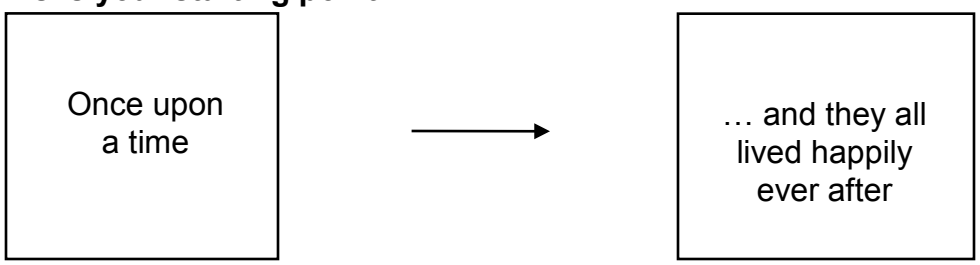
Manuscript preparation

MANUSCRIPTS SHOULD BE ANONYMOUS. [double blind] Please do not put your name anywhere on the manuscript. Please do not include acknowledgements, which might indicate your identity. Acknowledgements can be added to papers after acceptance.
Manuscripts may be of any length consistent with their content. However, most papers can be presented effectively WITHOUT EXCEEDING 8000 words, including tables and references.
Articles should be preceded by an ABSTRACT of between 100-150 words, summarising the aims and main empirical contribution of the paper.
Please indicate the position of figures and tables in the text as follows:
INSERT TABLE 1 ABOUT HERE

Not bothering to prepare your manuscript in the correct format creates a bad impression at the start, even before anyone has read what you have written!

Scientific publications:

This is your starting point:



and this is your target end point.

So, let's assume that you have a good story to tell - thoughtfully designed experiments, carefully carried out.

The secrets to making a good quality paper are to be ***logical***, ***unambiguous*** and ***consistent*** in the way that you present and discuss information:
- points should go ***clearly*** from one to another.
If not, reviewers won't be able to follow what is going on and you risk comments that the work is not focused or has unclear objectives.

Abstract

• **Write this at the start to organise your thoughts but revisit this once the paper is written.**

European Journal of Marketing instructions:
Authors must supply a **structured abstract** set out under 4-7 sub-headings:

- ❖ Purpose (mandatory)
- ❖ Design/methodology/approach (mandatory)
- ❖ Findings (mandatory)
- ❖ Research limitations/implications (if applicable)
- ❖ Practical implications (if applicable)
- ❖ Social implications (if applicable)
- ❖ Originality/value (mandatory).

Maximum is 250 words in total.

If the journal does not require a structured abstract:
The abstract is a summary of your report, so must be a brief description of the **whole paper**, capturing the essence of your research.
[Do not say "results are presented for …."]

• Give a little background (one sentence) describing the subject area of the research (this is often optional)
• Give a brief description of the rationale behind your experiment or research objectives.
• Describe briefly the research methods, experimental design, what was measured, and how they were analysed.
• Identify which of your results are most important.
• Identify the most important interpretation of your results.
• Maybe, say what this means for the future, policy implications, etc.

Try to save words wherever possible, for example as follows:
Short sentences save words:
Replace "and" with a full stop whenever possible.

Don't use redundant words:
'To do this, …..' and not 'In order to do this, …'

Rearrange or change words when possible. Instead of:
"…, and exploitation of the variety sizes in order to improve ..." use this shorter version:
"… Exploiting variety sizes to improve …" (5 words less)

Never waste words by repeating information.

On the next page are two contrasting abstracts of the same article …..

ABSTRACT

Nucleic acid based genetic "fingerprinting" techniques provide new and valuable tools to characterize diversity of microbial communities during the self-heating phase of compost material without the need of microbial cultivation. The present study introduces our compost DNA extraction protocol and new protocol based on separation of single stranded DNA molecules obtained from 16S or 18S rRNA gene targeted sequences. DNA extracted from composting material was used as a template for PCR amplification and detection of specific microorganisms. We used two corn (*Zea mays*) plant types in two piles: *wild type* and genetically engineered with chromosomal insertion of the phosphinothricin acetyl transferase (*pat*) gene, which confers resistance to the herbicide (BASTA). We showed indications of DNA degradation as decrease in general DNA yield and *pat* and 18S gene of corn. DNA sequencing of the 16S rRNA genes showed that three groups of isolates had highest similarities (> 98 %) to bacteria of the genus *Bacillus*. One group, detectable on BASTA amended medium, was related to *Pseudomonas stutzeri* (similarities, 96 to 97.3 %). We found that profiles of 16S rRNA amplified genes from compost DNA increased in their complexity during the composting process demonstrated that community members changed during composting (succession). Analysis of fungal 18S rRNA genes confirmed general knowledge and recent experimental evidence that during the hot composting stage fungal biomass is reduced. These results have relevance for recommendations for a waste recycling process for genetically engineered plants. However, the patterns need more detailed analysis, to understand their ecological relevance.

ABSTRACT

Microorganisms participating in the self-heating phase of composting material, which consisted of marker gene tagged corn (*Zea mays*), horse dung and wood chips, were characterized by DNA finger-printing (ARDRA) of cells cultured at 50˚C and by analyzing DNA that was directly extracted from compost samples. Cultivation-dependent methods detected five major groups at the end of the self-heating phase (after 18 d). Three groups showed high homology to bacteria from the genus *Bacillus* at the 16S rRNA gene level. Straightforward PCR amplification of bacterial target genes from compost extracted DNA was inhibited because of the high background of plant DNA and presence of humic acid-like compounds. By use of humic acid resistant, heat-stable DNA polymerases in combination with single strand, DNA binding, T4 gene 32 protein, PCR inhibition could be completely overcome. After 6 d of composting, the marker gene of the corn plants was degraded below the threshold of detection (< $10^{2.6}$ copies per g of compost). The diversity of bacterial and fungal communities in the compost was analyzed by single-strand conformation polymorphism (SSCP) of approx. 400 bp PCR products, which were amplified with universal primers for 16S rRNA (bacteria) and 18S rRNA genes (fungi), with compost DNA as a template. The generated patterns showed a succession of different members of the microbial community during the self-heating phase.

Green is background, blue is methods, red is results, yellow is conclusions. Which do you prefer?

The first was written by one of my Biology Faculty PhD students.
The second was the original written by the paper's authors!

Writing the body of the text:

I'll use the format usual for life sciences
- **Introduction/objectives**
- **Materials and methods**
- **Results/observations**
- **Discussion**
- **Conclusion/implications**

to say a few words about putting together what is needed for a good quality paper - whatever the subject of the research.

The first page:

- Choose a title that gives clear information about the content of the research.

"The effect of sleep loss on the exploratory behaviour of hamsters" is a suitable title but "Keeping hamsters awake" is not. The title may be a question: "Does sleep deprivation affect the exploratory behaviour of hamsters?" as opposed to "Can gerbils be kept awake?"

- Think carefully about the author list and their order of presentation - the one doing the research usually comes first.
- Authors should have contributed in some way to the science or the manuscript!
- Should you include your technicians as authors?

Before you start the main text:

- Have a go at a draft of the Abstract, just to help you organise your thoughts for the paper itself - come back to it later.
- Provide a list of Key words - think carefully about these: who do you want to read your paper? What aspects of your paper should be identified by a search engine?
- Provide a list of abbreviation definitions (to be added to as you go along).

Introduction/Objectives

- subject area background information
- research area background information
- your previous work leading you to this research
- clear statement of objectives and hypotheses to be tested
- sometimes objectives change during the paper!

By the end of this the reader should have a clear impression of why the research needs to be done and what sort of conclusions will be reached at the end.

Typical length no more than 2-3 double-spaced pages, depending on the research complexity.

Materials and methods

- Sufficient detail ***to allow others to repeat your work***
- Include ***only*** parameters/measurements and treatments that you will present later on
- State clearly the research methods/experimental design and how many replicates are being analysed (**needs very careful thought to be unambiguous**)
- Give details of analytical methods and assays (briefly if previously published)
- Give details of statistical methods that have been used.

Results

- Present results in a logical order
- If you measured it, present results for it
- Design tables and graphs to have the most visual impact (they must make points **clearly and unambiguously**)
- Say something in the text about all the points made in tables or graphs
- Do not interpret results in the Results section

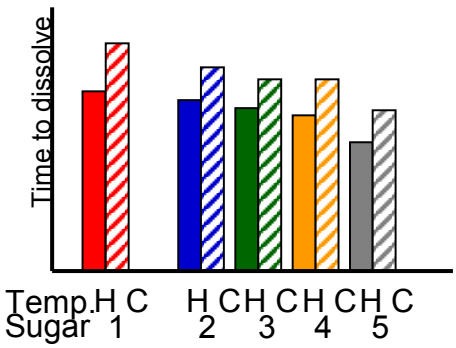
Now a few words on how to show data:

When showing results graphically, you should always put the most important comparisons nearest to each other.

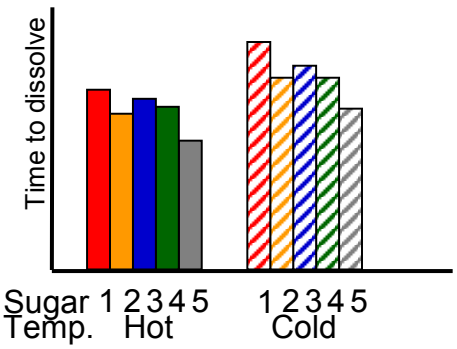
Here's the sugar experiment example from the previous module.

So, in the case of the sugar experiment, to test the (primary) hypothesis that sugar types dissolve at different rates:

Key: 1 = large crystals, 2 = cubes, 3 = raw sugar, 4 = ordinary, 5 = icing, H = hot water, C = cold water



Not this ...



... but this

Present your data in graphs in a **logical** order.
For example, many of my PhD students showed data like this:

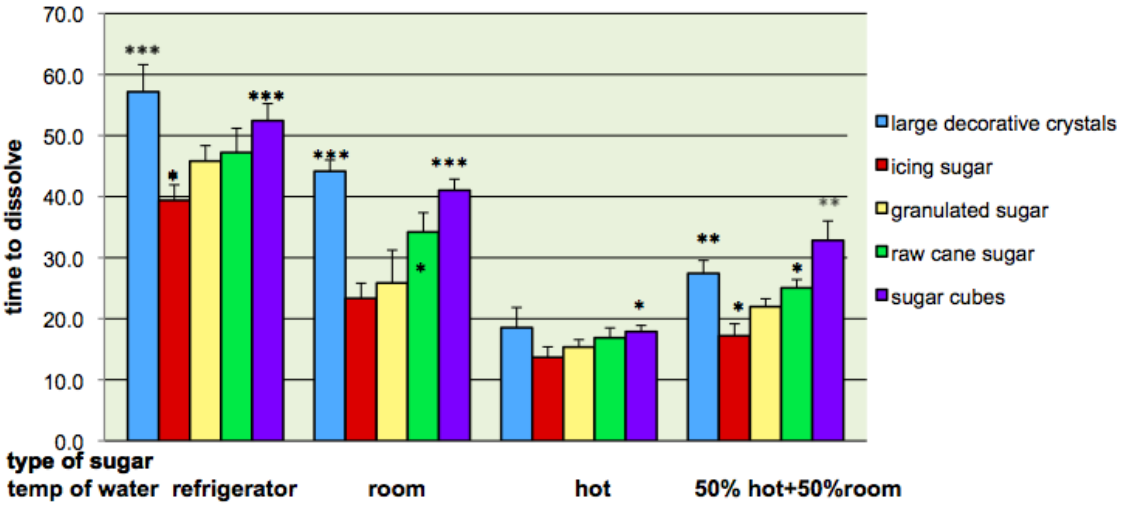
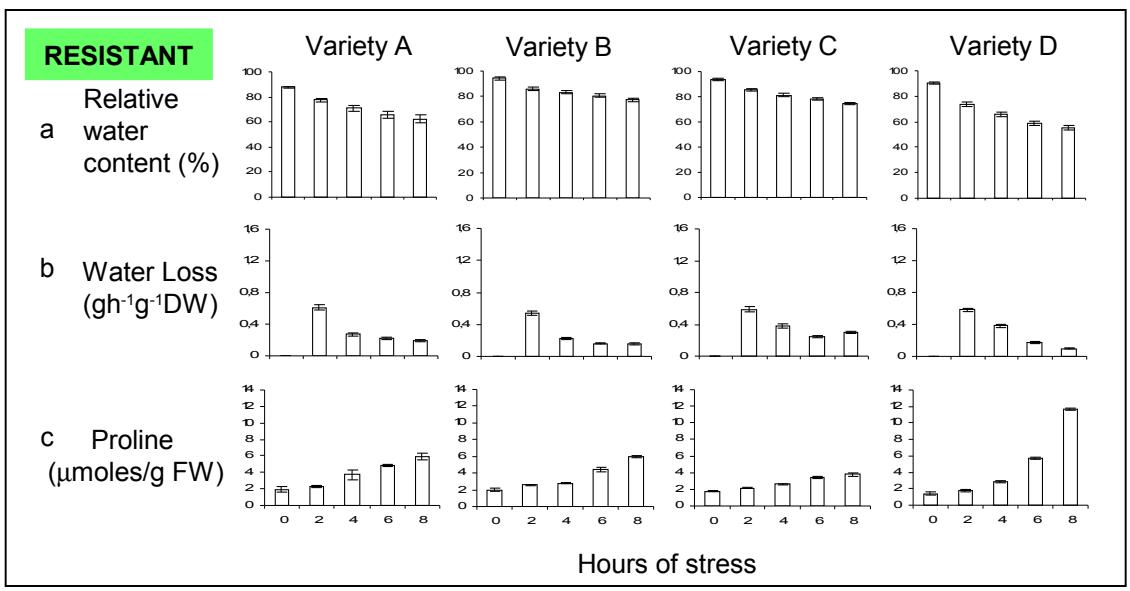


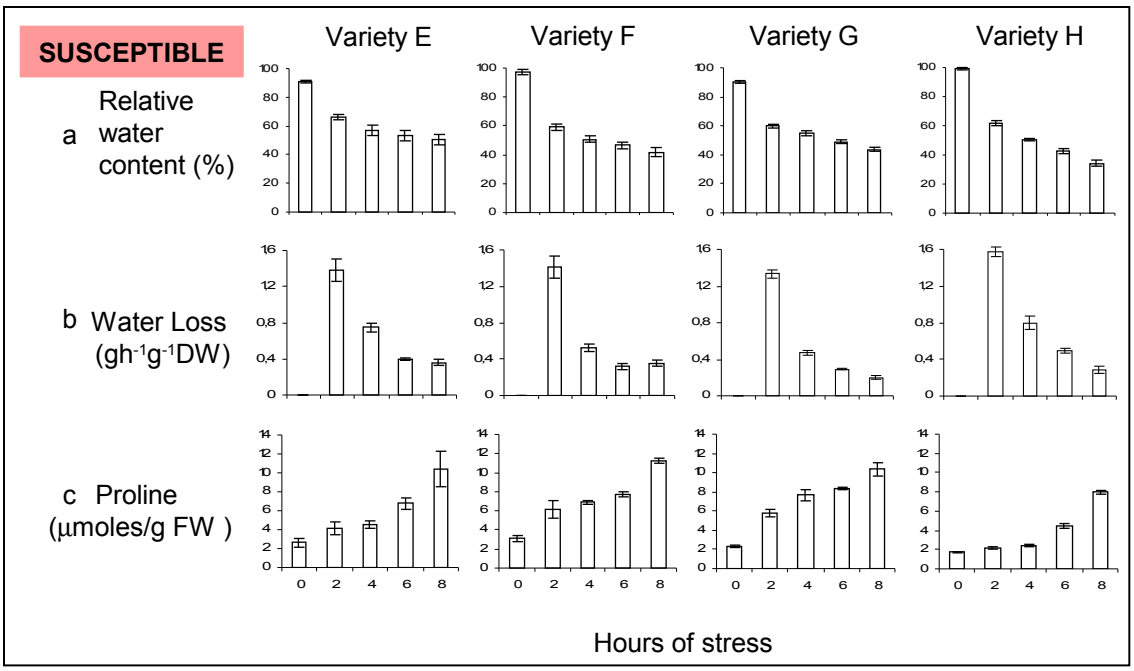
Figure 1. The dissolving rate of different types of sugar

Why are 50% hot/50% cold samples on the right hand side?
This order may be in real time, but is not **logical** to a reader.

Here are examples of problems with graphs from an actual manuscript:

The authors wanted to ***compare and contrast*** two groups of varieties differing in drought resistance (**otpornost prema suši**) and they presented two graphs - one for 4 resistant varieties, and the next for 4 susceptible varieties.





How easy is it for you to compare differences in drought responses between the resistant and susceptible varieties?

So, in this example it would be much better to compare resistant and susceptible varieties in the same graph, using a separate set of graphs for each trait/parameter.

Therefore, remember to put the most important comparisons you want the reader to see or appreciate close to each other in figures.

<u>Points to note on tables:</u>

- Don't make a table too dense with numbers.
- Don't use more decimal points than are justified by the precision needed (3 significant figures?).
- Remember to include all the units (cm, h, mmol).
- Don't repeat data shown in figures.

Table 1: Phenotypic analysis of shoot number and plant height in the population.

	Stage	Zhenshan	Minghui	the RIL population			
				Mean±s.d.	Range	Skew.	Kurt.
shoot number	Stage 1	1.30	2.25	1.716±0.425	1.00-2.90	0.560	-0.076
	Stage 2	9.47	12.57	9.776±1.582	6.20-14.10	0.273	-0.036
	Stage 3	17.88	22.85	19.041±3.692	10.50-29.90	0.266	-0.230
	Stage 4	17.43	20.35	18.085±3.323	11.10-29.10	0.472	0.235
	Stage 5	15.88	16.50	15.546±2.792	10.10-24.05	0.592	0.265
plant height	Stage 1	32.79	30.60	33.743±2.525	27.57-39.20	-0.054	-0.544
	Stage 2	50.38	49.76	51.183±3.555	43.17-61.31	0.217	-0.195
	Stage 3	80.22	75.09	79.757±5.053	67.20-93.50	0.098	-0.180
	Stage 4	82.18	78.97	85.372±5.633	71.92-102.51	0.283	-0.033
	Stage 5	85.13	105.94	98.610±8.118	78.46-116.27	-0.086	-0.432

No units for height

Far too many decimal places! Judging by the size of s.ds., only 1 is justified.

Table 2. Top 1/3rd better performing genotypes with respect to different *in vitro* traits under normal (0 bar) and stress (-7 bars) conditions

Rank	Germination (%)		Shoot length (cm)		Root length (cm)		Coleoptile length (cm)		Root number		Seedling vigour index (%)		Overall basis	
	0	-7	0	-7	0	-7	0	-7	0	-7	0	-7	0	-7
1	DH 5	DH 6*B	Sapt*A	DH 28*B	DH 62*B	DH 61*C	DH 80*B	V499*A	DH 17*C	DH 64*B	Sapt*A	DH 61*B	Sapt	Sapt
2	DH 6	DH 17*B	Sen*	Sapt*A	DH 43*B	DH 19*C	DH 85*B	Sapt*	DH 27*C	DH 28*B	Sen*	DH 19*B	DH 63	DH 28
3	DH 7	DH 4*B	DH 27*B	Sen*A	DH 63*B	DH 65*C	DH 69*B	Sen*	DH 29*C	DH 80*B	DH 85*B	DH 28*B	DH 80	Sen
4	DH 8	DH 18*B	DH 85*B	V499*	DH 80*B	DH 20*C	V499*A	V452*	DH 28	DH 53*B	DH 63*B	DH 20*B	DH 41	DH 19
5	DH 16	Sapt*A	DH 80*	V452*	WW24*A	DH 1*B	Sapt*	DH 20*	DH 58	H184*A	DH 80*B	Sapt*A	Sen	V452
6	DH 17	V452*A	DH 63*	DH 20*B	DH 16*B	DH 55*B	DH 60*	DH 38*	DH 86	Sapt*	DH 62*B	Sen*	V499	DH 61
7	DH 18	DH 7*B	DH 69*	DH 26*B	P552*	DH 28*B	DH 84*	DH 75*	DH 1	Sen*	DH 43*	V452*	DH 62	DH 40
8	DH 25	DH 19*B	DH 66*	DH 53*	DH 86*B	DH 36*B	DH 59*	DH 26*	DH 4	DH 7	V499*	DH 26*B	DH 26	DH 86
9	DH 26	DH 26*B	DH 3	DH 19*	Sapt*	DH 86*B	DH 87*	DH 19*	DH 7	DH 27	DH 86*	DH 55*	DH 86	DH 53
10	DH 28	DH 8*B	DH 1	DH 36*	DH 85*B	DH 77*B	DH 20*	DH 36*	DH 8	DH 69	DH 16*	DH 36*	DH 85	DH 26
11	DH 31	DH 16*B	DH 74	DH 61*	V499*	DH 57*B	DH 15*	DH 53*	DH 16	H155	DH 69*	DH 1*	DH 16	DH 20
12	DH 32	DH 29*B	DH 56	DH 55*	V452*	Sapt*A	Sen*	DH 61*	DH 23	DH 17	WW24*	DH 86*	DH 20	V499
13	DH 41	DH 46*B	DH 70	DH 40	DH 10*B	DH 40*B	DH 41*	DH 70*	DH 40	DH 21	DH 66*	DH 40*	DH 43	DH 55
14	DH 52	DH 28*B	DH 15	DH 86	DH 69*B	H42*	DH 56	DH 73*	DH 45	DH 23	DH 26*	V499*	H89	DH 36
15	DH 57	DH 43*B	DH 59	DH 65	Sen*	Sen*	DH 63	DH 55*	DH 49	DH 40	DH 56*	DH 57*	DH 31	DH 1
16	Sapt	DH 71*B	DH 86	DH 70	DH 26	DH 30	DH 34	DH 28*	DH 61	DH 49	P552	DH 65*	DH 56	DH 17
17	DH 60	DH 31*B	V499	DH 62	DH 56	DH 43	DH 31	H184	DH 62	DH 65	DH 31	DH 53*	DH 3	DH 65
18	H155	DH 56*B	DH 41	H184	DH 75	V452	DH 71	DH 86	DH 63	DH 71	DH 75	DH 74*	DH 69	DH 74
19	Sen	DH 60*B	DH 71	DH 73	H147	V499	DH 23	DH 39	DH 88	DH 86	DH 3	DH 38*	WW 24	DH 70
20	DH 4	DH 62*B	DH 53	DH 74	DH 78	DH 38	DH 76	DH 40	DH H89	H147	DH 74	DH 77*	DH 5	DH 57
21	DH 19	DH 39*	DH 75	DH 38	H30	DH 60	DH 88	DH 65	DH 5	P343	DH 10	DH 43	DH 45	H184
22	DH 21	DH 3*	DH 21	DH 1	DH 30	DH 74	H155	DH 72	DH 10	W10	DH 41	DH 70	DH 19	DH 27

Contd...

23	DH 33	DH 40*	DH 31	DH 39	DH 66	DH 93	P552	DH 74	DH 11	DH 4	DH 45	DH 30	DH 10	DH 38
24	DH 44	Sen*	DH 62	DH 72	DH 45	DH 27	DH 61	DH 1	DH 14	DH 5	DH 71	DH 93	DH 66	DH 30
25	DH 47	DH 74*	H89	DH 57	DH 31	DH 26	DH 39	DH 69	DH 19	DH 52	DH 30	DH 60	P552	DH 39
26	DH 48	DH 1*	DH 26	DH 58	DH 74	DH 14	DH 26	DH 93	DH 20	DH 61	DH 25	DH 17	DH 1	DH 77
27	DH 64	DH 11*	DH 20	DH 67	DH 93	DH 17	H89	P552	DH 41	DH 88	H3024	H42	DH 18	DH 73
28	H42	H89*	DH 18	DH 76	H184	DH 3	H184	DH 57	DH 60	H89	DH 20	DH 73	H155	DH 72
29	H184	DH 49*	DH 5	H155	DH 3	DH 10	DH 3	H155	DH 72	P552	DH 70	DH 3	DH 75	DH 21
30	P552	DH 53*	DH 58	DH 68	P343	DH 70	DH 35	DH 27	DH 78	V499	DH 78	DH 39	DH 74	P343
31	U2418	DH 70*	DH 78	DH 30	DH 25	DH 59	DH 38	DH 58	DH 87	DH 8	H184	DH 27	DH 32	DH 10

Note: Sapt- Saptdhara; Sen-Sentry; V499-VWFW 499; V452-VWFW 452; H42-HPW 42; H89-HPW 89; H155-HPW 155; H184-HPW 184;H3024-HW 3024; P552-PW 552; H147-HPW 147; P343-PBW 343; U2418-UP 2418

*Significant at P≤0.05, when compared with overall mean.

A Best parent; B DH lines at par with the best parent ; C DH lines better than the best parent

How easy is it to assimilate and understand the data in this table?!!! KEEP IT SIMPLE!

Electronic Supplementary Material

Most, if not all, good quality journals now allow Electronic Supplementary Material to be added to a paper, accessible through the journal's web site.

- These are a bit like Appendices for a PhD thesis - such as individual replicate or analytical data.
- You can add extra graphics using colour, as these should not add much to the publication costs.
- You can add animations and movies here.

Here's an example of instructions on ESM:

These are for Journal of Biological Chemistry.

JBC On-line provides the opportunity for authors to include data impossible or impractical to include in the printed JOURNAL.

These data will be reviewed as a part of the normal manuscript review process and will be judged by the same criteria.

Data files can be prepared in Plain Text, MS Word, HTML Page, MS Excel, TIFF, JPEG or GIF. When practical supplemental data files should be converted and submitted as PDF files.

Movies and large excel files should be submitted in their native formats.

Only data that substantially contribute to the manuscript will be accepted. We encourage authors to include data such as videos, 3-D structures/images, sequence alignments, and data sets that are very large such as those obtained with microarray hybridization experiments.

Discussion/Conclusions (1)

- Do not repeat the results in the Discussion!!
- This where you ***interpret*** your findings
- Discuss results in the order in which they were presented
- Interpret how your results fit in with your stated objectives/hypotheses
- Interpret how your results fit in with other published work
- Consider any limitations of your methodology and suggest possible improvements
- What happens next/policy implications. etc?
- Give a 'take-home' message at the end.

Discussion/Conclusions (2)

Make sure your Discussion is genuine discussion and not just descriptive - restating parts of your Introduction and Results:

"It has been suggested that under water stress soluble sugars can function as osmotic agents and as osmoprotectants[47,48]. The results obtained in this experiment showed that after D3 treatment sugar concentration was higher in comparison to Control, D1 and D2 treatments."

Plagiarism is becoming an increasing problem.

Guidelines on quotations from Human Relations:

Quotations from published work, including any author's own previous work, must be acknowledged as such and fully cited.

Quotations should be kept to a minimum. Where possible, keep quotations to 100 words or less. Where quotations exceed 400 words, the permission of the publisher (or copyright holder) must be obtained and acknowledged.

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Writing style (1)

At the end, put aside your draft and come back to it later. You'll be surprised how much you want to change!

This is the time to tighten up the text and remove unnecessary words - scientists from here like to use unnecessary words!

Such phrases as 'It is worth pointing out in this context that' may be deleted without affecting the meaning.

So may 'It is significant to note the fact that', 'It should be borne in mind in this connection that', and other phrases that correspond to no more than spoken 'errrs, ummms and ovajs'.

For 'It is plainly demonstrable from the data presented in Table 2' write 'Table 2 shows'.

How to Write & Publish a Scientific Paper

5th Edition

Robert A. Day- ORYX PRESS1998

ISBN 1-57356-164-9 Hardback 1-57356-165-7 Paper

Appendix 4: Words and expressions to avoid

Replace	with
a considerable amount of	much
a considerable number of	many
a decreased amount of	less
a decreased number of	fewer
a majority of	most
a number of	many
a small number of	a few
absolutely essential	essential
accounted for by the fact	because
adjacent to	near
along the lines of	like

Some closing remarks 1:

- A frequent reason for rejecting a manuscript is that the results/conclusions of your research are not thought to be sufficiently novel or not substantial enough or of local interest only.

- for example just repeating someone else's work with different varieties/species.

- If the referees say your manuscript is too long and needs reducing, a good way to do this is to combine the Results and Discussion sections so you say everything only once!

- Your written English needs to be sufficiently good for it to be unambiguous/obvious what you are trying to say. If in doubt, when possible get a native English speaker to check your manuscript before you send it.

- Referees will not bother to struggle reading very bad English! However, if the English is acceptable, they will often be willing to correct for you any subtleties in the use of words (eg prepositions, and when to use 'a' and 'the').

- Don't assume referees are always right!
- Just like us, they sometimes make mistakes, not reading text carefully enough or jumping to the wrong conclusions.

- So, you don't have to accept everything a referee says!
- If you can provide a good counter-argument to a referee's comment in your reply to the journal's editor, then do so.

The review process:

This example for **Journal of Experimental Botany** is typical.
The Editor makes the initial evaluation of the manuscript. If the topic is important and relevant to the journal readership, he/she assigns the manuscript to an Associate Editor, who oversees the review process.

Manuscripts are reviewed by two independent experts in the particular area. The reviewers will make a scientific assessment and recommendation to Editors.

If reviewers' reports are contradictory, the Editor will either send the manuscript for a third opinion and accept the majority view, or decide to reject the manuscript.

This is the review form to be completed:

Referee Assessment
Please complete the following assessment and use these criteria in writing your report.

	Yes	No	See comments
The reported results are novel			
The experiments are well designed and executed			
The manuscript is well written, clear, concise and in the **third person**			
The subject area is important and relevant to experimental botany			
Figures and tables are clear, non-repetitive and necessary			
Titles and abstracts are representative and concise			
References are adequate without being excessive			
Colour plates are essential to understanding the science			

Please score the paper on a scale of 1 to 5 with 5 the highest quality or most important:

Importance of the topic
Quality of the science

Quality of science has to be 4 or 5 for manuscripts to succeed.

Overall Recommendation
Please tick the appropriate box

Acceptable with minor revision
Acceptable with revision
Unacceptable as major revision required
Unacceptable

Note: J. Exp. Bot. rejects over 60% of manuscripts submitted!

Conclusion:

So, if you've carried out carefully-designed research testing hypotheses, the advice given here should allow you to prepare a good quality manuscript for an M21 international journal describing your research.

Remember:
- your research should be ***looking for the truth***
- the reader of your paper needs to see clearly ***that you present the truth!***

Finally, for complementary advice on writing a scientific paper see:
http://vivovoco.astronet.ru/VV/E_LESSON/WRITING.HTM

Examples of review comments 1:

Review of MS 010643 by M…. and R….

At first sight this looks a carefully carried out and written up piece of research to study aspects of the mechanism of Cd uptake and complexing in durum wheat. There is some very good science in this; it's just a shame that the hydroponics experiment didn't work!

The authors need to repeat this aspect of the work with much lower levels of Cd in the hydroponics to be able to test the association between Cd uptake and sequestering in relation to seed levels of Cd. This may reveal differential expression of Cd-complexing polypeptides.

Nevertheless, much of the biochemistry presented here is probably publishable in its own right, though not in relation to any genetic variation in seed Cd contents. The authors should be encouraged to consider this, while at the same time repeating the hydroponics experiment with more realistic Cd treatments to test for genetic variation in Cd complexes.

If it is any consolation, it is nice to see a manuscript so well presented with so few unnecessary errors.

Examples of review comments - cont.:

Review of MS 010643 by M…. and R….

A few minor errors and stylistic improvements have been noted on the text.

A couple of specific points from the text that the authors should address in any new manuscript are listed here:

1 P7 It is not clear in the Materials and Methods (lines 16 *et seq*) how many replicate samples of each genotype were analysed for Cd complexes. Was it just one per genotype or more? With appropriate experimental design it would have been possible to carry out a paired t-test with each isoline pair to test whether any consistent trend existed between H and L lines - for example Table 2 shows that L lines consistently had lower means for Cd peak I than H lines for each tissue type, though any significance of differences is lost in the noise generated by pooling data for all the lines within a phenotype.

2 P10 L12 Cd concentration in seedling leaves was NOT lower for TL-L, according to Table 1.

3 P10 L22 It is not clear what the 'expectation' is from Table 1!

Examples of review comments 2:

Report on MS 000937 by H…. et al.

This manuscript describes a QTL analysis of physiological traits in sunflower that could potentially be very interesting for publication in JEB. However, at present the manuscript has major deficiencies that place serious doubt on the validity of the QTL analysis. These need to be addressed before the manuscript could be considered for publication. In consequence, the manuscript has been reviewed only as far as the start of the Results section.

The essential problem is caused by attempting to analyse traits that are temporally and environmentally highly variable in a large population of plants and believing that the measurements reflect genetic variation. For example, to measure leaf water potential with a pressure chamber is likely to take at least 2 min per leaf - a conservative estimate as the Soil Moisture Equipment Corp. chambers are rather slow to seal and unseal. Therefore, with a single leaf chamber only about 30 samples could be collected per hour, which means 90 genotypes in 3 h and if all three replicates were sampled (not stated in the text), that is 9 h. So, how long a period was regarded as representative of 'pre-dawn' water potential? What is the dynamics of rehydration of sunflower leaves during the night?

Examples of review comments 3:

Review of Manuscript by F…… et al. for J Exp Bot

This paper describes agronomic properties of several annual ryegrass accessions under drought stress. Although the paper more-or-less comes within the remit of the journal's subject matter, it might be more suited to another journal such as European J of Agronomy or Euphytica. In any case, the present version of the manuscript is flawed, and could not be accepted for publication. The major problem with the present version is that the authors have not adequately addressed the apparent objectives of their work. They talk about high seed production being necessary for good drought adaptation, yet their data do not include seed number per unit area. They present data only for seed yield, which is not the same thing, and none of the data for other traits studied and presented in the manuscript allow seed number per unit area to be assessed.

They present an unclear picture of the sort of traits that are associated with drought resistance. They also confuse adaptation in terms of an active response of the plant to a drought and traits that are constitutively present, such as earliness. They claim a drought resistant morphotype should have an erect habit, yet the seed yield was not significantly correlated with plant habit! Or is drought resistance something else?

An example of comments I made on a manuscript I reviewed recently ….

The QTL analysis of LL, FLL, LW, and FLW, which determines not only vegetative growth but also grain yield because leaves are major sources of yield sink capacity, will reveal genetic mechanism of the complex trait. [This sentence doesn't fit in well, doesn't read well, and why should it be in the future tense? What does it mean about LL, FLL, etc affecting vegetative growth?]

In a previous report, in interval *RM197-RZ516* on chromosome 6, two QTLs for leaf length and 2 QTLs for leaf width were detected (Shen et al. 2003). While, Yue et al. (2006) found that region *RM255-RM349* on chromosome 4 controlled the three [What ***three***?] leaf morphological traits simultaneously. The QTLs detected were having ~~minute~~ small to moderate effects on the tested traits (Tables 3-5) [What are tables 4 and 5 and where are they?]. This may be possibly due to small difference in the parents of segregating population (Table 2). [But you can test this, to see what proportion of the variance is accounted for by a particular QTL. Gramene currently shows 111 QTLs for leaf width in rice, so the discussion here on leaf width QTLs identified by others is very poor.]

In crux, leaf length and leaf width are very important traits. Studies should be repeated across the time and space and more SSR markers should be used to detect the QTL for these important traits. [Hmm. What does this sentence actually mean? Why repeat studies, and why use more markers?] The developed INLs are useful materials not only as breeding lines but also as research materials to examine effects of leaf size