



Peer Review – What is it and Why is it Important

Peer review is a process used in the publication of manuscripts and research results. It subjects the author's work to the scrutiny of other experts in the field. Peer review is considered critical in establishing a reliable body of knowledge. Showing the work to others before publication increases the likelihood that any weaknesses in the design of the experiment or interpretation of the results are corrected before it becomes accessible to a wide audience.

In the world
of science there
are 5 levels
of proof.

The
fifth level
of "proof" adds
the **PEER REVIEW**
to the process.

By having other experts review the results and interpretations you have more chances to identify errors in the procedures or conclusions. Peer reviewed data in which statistics have been properly applied is the highest quality of information upon which to make a decision.

The fourth level of "proof"
adds **STATISTICS TO THE
CONTROLLED STUDY**.

With the proper use of statistics you can judge whether the observed differences in the trial are actually real or just due to chance.

The third level of "proof" is a **CONTROLLED STUDY**
that is not peer reviewed, and without statistics.

Unlike the uncontrolled study, in this case all variables are held constant and only the item in question is changed. You can compare the treatment means to see if they differ. But, is the difference a true difference or just due to chance? Without statistics you don't know that, and without any review by your peers, mistakes in procedures or incorrect analysis of the information go unchallenged.

The second level of "proof" is an **UNCONTROLLED STUDY**.

In this case data is collected showing a before and after scenario. Often this may be in the form of commonly kept records. A change was made and the parameter in question also changed (for either better or worse). It is assumed that the observation was a "cause and effect" relationship. In fact there may have been other factors that also changed at about the same time. For example, maybe the weather got really hot at the same time a feed change was made.
Were the results because of the feed or the weather?

The easiest to obtain and least valuable is the **ANECDOTAL EVIDENCE**.

Usually this is in the form of a testimonial. A producer that uses a product and likes it is inclined to tell others about the experience. This may be a simple recommendation to a friend or a paid advertisement reaching a much larger audience. There may have been no data collected, but the relationship seems to exist.
This is "practical experience" speaking.

In summary, a conclusion based on personal observation and practical experience may be just as correct as a peer reviewed scientific article. But over the long haul you will be much more successful if the basis of decisions is supported by the higher level of "proof." Peer reviewed scientific information is least affected by the bias (or agenda) of the person collecting and summarizing the data.