K-STATE Research and Extension

Tech Writing Tips

from Kansas State University

General Tips

1. **Think about the purpose of and audience for your writing.** If you are describing research for a general audience, your emphasis will be different than if you are writing a manuscript for journal publication. All of our publications are research-based, but a Keeping Up With Research publication, for example, should be more focused on telling producers what action to take than on describing the minutiae of research procedures. Ask yourself if your reader will be asking, "So what?" Then ask yourself if you've answered.

2. **Remember that how text looks on the page/screen influences whether it will be read.** If you have a large block of text, look for places to break it up with a subhead or a new paragraph.

3. **Passive voice is conventional in technical and scientific writing, but it makes for dull reading for a general audience.** When writing for journals, following the typical style may be important, but if you are writing for a non-academic audience, try to stick to active voice. Instead of, "Three varieties were found to have the best resistance," say "We found three varieties had the best resistance."

4. **Write active headlines.** "Effects of …" is **not** an active headline. Try to put the subject of the headline first and use an active verb. Instead of "Effects of Xylanase in Grow-Finish Diets on Growth Performance," use "Xylanase Improves Growth Performance in Grow-Finish Pigs." Not all results are this simple, but spend time thinking about what your headline should say so it's clear, searchable, and interesting to readers.

5. **Use a model.** Find a successful piece of writing that's similar to yours and study its organization and style. Technical writing is formulaic, so time spent studying successful templates is time well spent.

Usage Tips

1. **Never begin a sentence with "there are/were" or "it is/was,"** which are vague constructions that fail to emphasize the subject of the sentence and lead to passive voice.

   - **Instead of:** "It is important for research to continue in this area," **write** "Continued research in this area is important."
   - **Instead of:** "There were significant positive correlations between …," **write** "We found significant positive correlations between …."
   - **Instead of:** "Is it important to note that …," **write** "Notably, …."
   - **Instead of:** "There were no significant differences among treatments," **write** "No significant differences were measured among treatments."

2. **Choose wording carefully when giving ranges.** If you say, "The study was between 2009 and 2011," what you are saying is that the study was in 2010. If the study was throughout 2009, 2010, and 2011, you should say, "The study was from 2009 through 2011." Another example: "Ratings were on a scale of 1 to 5" is better than "Ratings were between 1 and 5" unless what you really mean is that ratings were only 2, 3, and 4.

3. ***To* vs. *through***: Another problem with ranges. When you say, "Rainfall was monitored from April through October," you are clearly including October; however, if you say, "Rainfall was monitored from April to October," whether October is included is unclear.

4. ***Data* is plural.** "Data were analyzed" is correct (**not** "data was analyzed").

5. ***While* means simultaneously**, as in, "He talked on the phone while driving." **Do not use in place of *although* or *whereas*.**

   These examples are correct:

   - "Research demonstrated that although both pathogens reduced plant growth, *H. glycines* population did not increase foliar symptoms of SDS."
   - "Although some reports have noted a positive correlation between SCN population and SDS symptoms, others have not."
   - "Peptone 50 is co-dried with a vegetable protein, whereas PEP-NS uses by-products from corn wet-milling as well as dried fermentation biomass."

6. **Do not use *once* when you mean *after*.** "After centrifugation, samples were ground" is correct, **not** "Once centrifuged, samples were ground."

7. **Do not use *since* when you mean *because*.** *Since* should be used only to convey time, not causality.

   These examples are correct:

   - "This research has been in progress since 2001."
   - "Because this experiment has been conducted over many years, data are conveyed in a series of figures."

8. **Do not hyphenate compound modifiers that contain –ly:** These constructions do not require hyphens because –ly already guarantees that readers see the modifiers as a unit. Examples: broadly adapted cultivars, ruminally cannulated steers, fully automated system, carefully planned project.

9. **In general, *however* should not begin a sentence.** Instead, use it as a conjunctive adverb with a semicolon: "In conclusion, pelleting the complete diet for nursery pigs improved efficiency of gain in one of the two experiments; however, adding a percentage of the corn after pelleting is not a viable option for nursery pigs."

   Also **avoid overusing** *however*; save it for emphasis. If you find yourself using it two or three times a paragraph, replace some uses with *but* and think about how you can revise your sentences to avoid *however*. ***Therefore*** should also be kept to a minimum and not used more than once every paragraph or two.

10. **A comma should always precede *respectively* and *which* and follow *i.e.* and *e.g.*** (Note: For help on that vs. which, and many other great tips, see the "Misused Terms" section of the **K-State Research and Extension Style Guide**. The guide is available at *http://www.communications.ksu.edu/p.aspx?tabid=1075*.)

    These examples are correct:

    - "The first three experimental plots were susceptible, which could account for their low yields."
    - "Pen was the experimental unit for all data analysis and significance and tendencies were set at $P < 0.05$ and $P > 0.10$, respectively."

Kansas State University Agricultural Experiment Station and Cooperative Extension Service