

# Editors Can Improve Charts

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Readership studies show that the average reader has difficulty following and understanding charts.

Persons who use charts, not the readers, must bear the blame if charts do not communicate as intended. The chartmaker must share the blame. The editor and the subject matter specialist must also share responsibility for the unfortunate reputation of charts.

Charts can

- emphasize an important point visually and dramatically,
- illustrate a point more simply than it can be explained in the text,
- save word space, and
- create interest in the article.

Charts can do these things and do them well—IF. IF the chart head tells quickly and simply what the chart shows. IF the chart is simple to follow. IF the chart requires a minimum of eye movement from head to subhead to legend to the lines or bars. IF the chart visually communicates highlights. And IF the chart communicates with the average reader.

The editor too often leaves the chart up to the subject matter specialist and to the chartmaker. The editor may be accustomed to doing hard copy editing and accepts the chart for what it is. To the casual editor a chart may be simply a decoration on the page, the province of the subject matter

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specialist, or something not worth getting excited about.

The subject matter specialist usually has an academic background with years of looking at charts of information in a subject matter field. By training and experience the specialist feels at home with charts. He or she may have a knack for making charts or, on the other hand, may be a bit clumsy at it. The specialist may have little training in making charts, but is assumed to be an expert. Sometimes when designing a chart, specialists are communicating with colleagues rather than with the average reader.

In reality, the chart is a highly important part of the message, perhaps more important than the text—particularly since the chart gives the reader an impression of what to expect in the overall article. The chart, then, should be tackled with the same gusto and editing skills—and teamwork—as the article headline, subhead, opening paragraph, photographs, and layout. And every one of those is as important as the text itself.

A project at USDA is aimed at improving the effectiveness of charts. The project involves the bellwether USDA chart publication—the Handbook of Agricultural Charts. Following are guides to better charts, examples of **before** and **after** chart titles developed as part of our project to improve USDA charts, and a chart editing checklist.

Don't expect to find perfection here—we were simply groping for improvement.

## A Guide to Better Charts

These principles were developed during work on the 1978 and 1979 Handbooks of Agricultural Charts.

1. The purpose of a chart is to communicate visually with the average reader; every chart should be approached with that goal and should be judged by how well it communicates visually.

2. Charts are intended to highlight major points visually, not to show all there is to show about the subject.

3. A chart is not a decoration, it should communicate visually. It has a message of its own.

4. Some things aren't adapted to visual presentation—there is too much or too little to show, or it doesn't make a meaningful visual image.

5. A chart can be dull, difficult, and fuzzy—just as writing can be.

6. If the viewer must study a chart and puzzle over it—it has missed the mark. The chart should tell its message quickly and clearly.

7. A chart is not a substitute for a table, nor should the chart be loaded with figures (as on top of bars) when the eye can easily tell from the scale what the values are.

8. The purpose of communication, including visual communication, is not to appear academic or erudite, but to be understood.

9. The more technical the chart title sounds to the viewer, the smaller the chance that the chart will be understood by the reader—or that the chart will even be looked at.

10. The chart title should lead the viewer into the chart with a clear and favorable anticipation of the message; when practical, the subjects mentioned in the title should be in the same sequence as the subjects will be seen in the chart.

11. The busier the chart, the more confusing it is—and the smaller the chance that the viewer will try to figure it out.

12. Charts should follow the normal eye movement, top to bottom, left to right. A chart that flows from title to legend to line movement will be understood more quickly and easily than one which flows from title to line movement to a legend at the bottom of the chart.

13. The greater the eye movement required in a chart (from a six-part legend to several bars, for example), the harder the work and the less likelihood that the chart will be understood.

14. The more critical the material in the footnotes, the smaller the chance that the chart will communicate—since many people won't look at the footnote.

15. Every "bad" or "difficult" chart detracts from the enthusiasm with which the viewer will tackle other charts.

## **Titles of Charts**

Chart titles in the Handbook of Agricultural Charts were changed to be simpler, more direct, and less technical and academic.

### **BEFORE**

Farm Income Components

Index of Prices Paid by  
Farmers

### **AFTER**

Income from Farming

Changes in Prices Farmers  
Pay

Annual Net Flow of Farm Loan Funds	Annual Change in Farm Debt
Cropland Output and U.S. Population	How Crop Output Compares with Population Increase
Volume of Sales by Class of Pesticide	Volume of Pesticide Sales
Farm Residents Employed in Agriculture and Nonagricultural Industries	Employment of Farm Residents
Consumer Price Index: Food	Change in Consumer Food Prices
Contributions of Components to Increases in Food Store Prices	Contributors to Increases in Food Prices
Food Prices: Domestic and Imports	Changes in Retail Food Prices
Shares of the Farm-Food Dollar	Where the Farm Food Dollar Goes
Contributions to the National School Lunch Program	Who Pays for the School Lunches?
U.S. Agricultural Export Price and Quantity Indexes	Value and Volume of U.S. Agricultural Exports
U.S. Agricultural Exports by Country, 1976	Where We Ship Our Agricultural Exports
Index of World Agricultural Production	Changes in Agricultural Production
Railcar Loadings of Grain	Carloads of Grain Shipped by Rail

Rail Rate Index for Freight, Total, Farm, and Food Products	Change in Rail Freight Rates for Agricultural Prod- ucts
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The "AFTER" titles are not suggested as the best that might be written. Often, they were a compromise with the subject matter specialist, and sometimes written to meet an urgent deadline, with the subject matter specialist consulting by phone. Some titles were not completely acceptable to specialists and some not completely acceptable to the editors. However, they are examples of improvements that can be made.

## Chart Editing Checklist

1. Are intervals between years the same across chart?
2. Is information in footnote accurate?
3. Do dates in footnote agree with dates in chart?
4. Are words spelled correctly?
5. Are right verb tenses used in footnote?
6. Are words capitalized correctly?
7. Does scale used (lbs., \$, percent, etc.) agree with heading, subheads, and legend?
8. Where "median" is used in copy is term explained in footnote?
9. Do chart lines show what legend says they will?
10. Are terms in heading the same as terms used in legend, in footnote, and used to identify lines or bars?
11. Are all lines plotted on chart?
12. Does head tell accurately what is in chart—for instance, "cost" in head but chart shows "prices"?
13. When "percent of 1967" is used as a base, for example, does chart start with 1967, as it should?
14. When figures are used in chart, are they accurate and do they total correctly?
15. When percentages are used in chart, do they add up to 100?
16. Do figures clearly represent percentages, pounds, or another designation?
17. Does data in a chart conflict with data in another chart which also is presumably up-to-date?
18. Is footnote punctuated correctly?
19. When a legend is used for bars, is the legend in the same sequence as the material in the bars?
20. Does the chart identify a line the same way it is iden-

tified in footnote or in head?

21. Are figures attached to the right bars?
22. If chart is a bar or strata chart, does the scale start at zero?
23. If there is a double scale, is it clear which elements go with each scale?
24. On pie charts, does largest segment start at twelve o'clock with other segments following clockwise in descending order, with "other" plotted last?
25. Is proper size, vertically and horizontally, marked for reproduction?