

United States
Department of
Agriculture

National
Agricultural
Statistics
Service

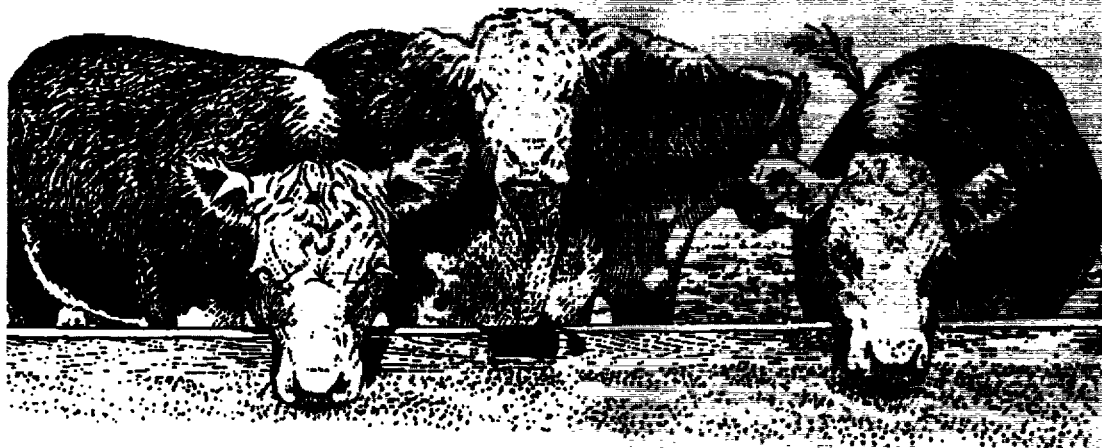
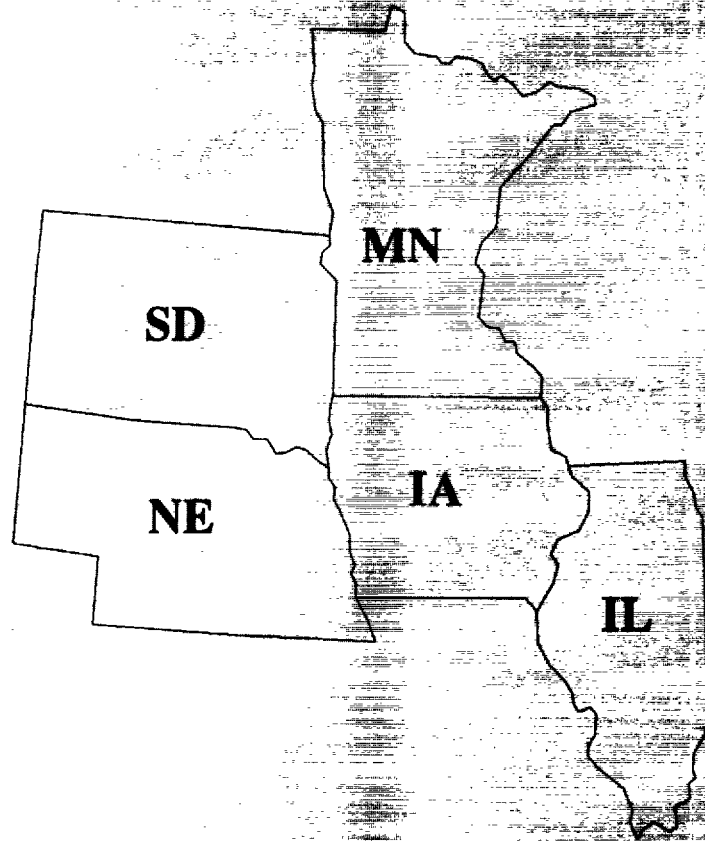
Research Division

SRB Research Report
Number SRB-93-06

July 1993

AN ANALYSIS OF THE COGNITIVE ASPECTS OF THE JANUARY 1993 CATTLE ON FEED SURVEY QUALITY ASSESSMENT

Terry P. O'Connor



AN ANALYSIS OF THE COGNITIVE ASPECTS OF THE JANUARY 1993 CATTLE ON FEED SURVEY QUALITY ASSESSMENT, by Terry P. O'Connor. Research Division, National Agricultural Statistics Service, United States Department of Agriculture, Washington, D.C. 20250-2000, July 1993. Report Number SRB-93-06.

ABSTRACT

Beginning with the January 1992 Agricultural Survey (AS), the National Agricultural Statistics Service (NASS) instituted a three phase reinterview and reconciliation Cattle on Feed Survey Quality Assessment (QA). The QA focused on interviews with farmer-feeders who reported positive cattle inventories on the AS to assess the quality of cattle on feed (COF) reported data.

The QA consisted of three phases over a twelve month span in order to accomplish intermediate goals while transforming a research project into an operational program. The QA has two parts: one series of questions used to measure response bias, and a second series of cognitive questions used to investigate under- or overreporting of COF, and respondents' understanding of AS terms and questions.

Respondents were requested to provide their own definition for "cattle and calves on feed," "backgrounding" and "calves (calf)." Respondents in five farmer-feeder States (Illinois, Iowa, Minnesota, Nebraska, South Dakota) had mixed results in matching the NASS definitions for these terms. Most variability occurred in defining backgrounding, and in providing a weight class when defining a calf.

Respondents who had both cattle and calves on feed and backgrounding cattle and calves were able to provide separate numbers for each group. When totals are not asked for independently, some combining of the groups occurs, while in other cases head are left uncounted. There is evidence of the underreporting of calves within the COF inventory. Respondents were nearly as likely to exclude calves to be finished on their operation for the slaughter market as they were to include them as COF.

KEY WORDS

Backgrounding; Cattle on Feed; Cognitive interviewing; Quality assessment; Reconciliation; Reinterview.

ACKNOWLEDGEMENTS

The author appreciates the efforts of the State Statistical Office staffs and field enumerators who took part in this project, who made the extra effort and enabled this research to be completed. Thanks are due to Dale Atkinson and Robert Hood of the Survey Quality Research Section, Scot Rumburg of the Research Division and Jaki Stanley of the Survey Management Division, for their support of this project.

TABLE OF CONTENTS

SUMMARY	iii
INTRODUCTION	1
BACKGROUND	3
METHODS	6
RESULTS OF THE REQUEST FOR DEFINITIONS	8
RESULTS OF "CALVES OVER 500 POUNDS?"	14
RESULTS OF "CALVES ON FEED"	17
DISCUSSION AND RECOMMENDATIONS	20
REFERENCES	25
APPENDIX A: Respondent Definitions, "Cattle and Calves on Feed"	27
APPENDIX B: Respondent Definitions, "Backgrounding"	28
APPENDIX C: Respondent Definitions, "Calves (Calf)"	29
APPENDIX D: Respondent Definitions by Strata	30
APPENDIX E: QA Interview Sample Sizes and Response Coding	33
APPENDIX F: Combining Strata	34
APPENDIX G: Examples of Wording Differences	35
APPENDIX H: January 1993 Agricultural Survey Questionnaire	36
APPENDIX I: January 1993 Quality Assessment Questionnaire	39
APPENDIX J: Quality Assessment Reconciliation Form	45
APPENDIX K: What Else are the Respondents Saying?	49
APPENDIX L: What are the Enumerators Saying?	51

SUMMARY

Beginning with the January 1992 Agricultural Survey (AS), the National Agricultural Statistics Service (NASS) instituted a three phase reinterview and reconciliation program to assess the quality of cattle on feed (COF) reported data. This program evolved as the Cattle on Feed Survey Quality Assessment (QA). The QA focused on interviews with farmer-feeders who reported positive cattle inventories on the operational AS, rather than reinterviewing commercial feedlots. The focus on the smaller farmer-feeders was to investigate a hypothesis of overreporting of COF inventories within this group.

The QA consisted of three phases designed to accomplish intermediate goals of transforming a research project into an operational program over a twelve month span. Overall goals of the program were to determine the existence of, and reasons for, any reporting errors; to gather information on the respondents' understanding of the AS questions; and to provide real-time response bias estimates of COF inventories for the Agricultural Statistics Board (ASB).

The QA can be considered to have two parts: one series of questions used to determine the presence and magnitude of any response bias, and a second series of cognitive questions used to investigate under- or overreporting of COF, and respondents' understanding of AS terms and questions. This report will focus on the data and information received from the cognitive questions from Phase 3 of the program.

Respondents were requested to provide their definition for "cattle and calves on feed". The three most frequently mentioned components across the five states were

"Being fed for the slaughter market"	(299 replies, 25.8%),
"On grain ration / on full feed"	(297 replies, 25.6%),
and "Contained in a feedlot"	(136 replies, 11.7%),

all of which fall within the NASS definition for COF. For this item, 12% of the components mentioned were negative responses, in conflict with the NASS definition.

Respondents were then to provide their definition for "backgrounding". The three most frequently mentioned positive components across the five states were

"Readying for feedlot/readying for full feed"	(148 replies, 14.4%),
"Growing to sell to someone else to fatten"	(134 replies, 13.0%),
and "On limited rations"	(99 replies, 9.6%),

which fall within the NASS definition for backgrounding. Negative responses accounted for 17% of the components mentioned.

Respondents in these five farmer-feeder States (Illinois, Iowa, Minnesota, Nebraska, South Dakota) have difficulty with the term backgrounding. In defining what "cattle and calves on

feed" meant to them, 7 times as many respondents in the five States specifically included backgrounding animals (51 replies, 4.4%) in their definition as specifically excluded backgrounding animals (7 replies, 0.6%). When asked to provide their own definition for backgrounding, 141 respondents (13.7% of responses for this term) replied, "I don't know". These results are despite the fact that the AS questionnaire contains a definition for backgrounding within the body of the COF total inventory question.

Respondents also provided their definition for the final term of the group, "calves (calf)". The three most frequently mentioned positive components across the five states were

"Up to 500 #"	(197 replies, 22.3%),
"Up till weaning"	(184 replies, 20.8%),
and "Under one year / up to a yearling"	(118 replies, 13.4%).

The percentage of positive components across the five states for "calves (calf)" averaged 99%, but this high percentage of positive components is due to the large number of responses considered "comparable to" (rather than in conflict with) the NASS definition.

Of those who supplied a weight when providing their own definition of "calves (calf)", 268 (58%) mentioned a category other than the NASS standard of "less than 500 pounds". In reporting their number of calves on their operation **over** 500 pounds, 292 respondents reported 50,733 calves, 9.6% of which were **not** included in the cattle and calves inventory.

Of the 446 respondents who provided a COF inventory total, 128 (28.7%) additionally reported 15,524 backgrounding cattle, an average of 121 head per respondent. The expanded total for these backgrounding cattle is 899,804 head. None of these cattle and calves were included in the COF inventory total, in accordance with the NASS definition of COF.

After providing their COF inventory total, then their backgrounding cattle total, only 4 respondents replied "Yes" to a question asking if the survey had missed any cattle or calves that the respondent felt should be included as COF. By asking two questions we were able to account for virtually all of the cattle and calves on the surveyed operations, minimizing the possibility that some cattle and calves were either mistakenly included in or excluded from the COF total inventory.

There is evidence of the underreporting of calves within the COF inventory. Respondents were nearly as likely to exclude calves to be finished on their operation for the slaughter market as they were to include them as COF.

The responses to a series of questions show that respondents with calves under 500 pounds had made a decision about whether to finish the calves themselves or sell them to be finished by someone else, and could relate to the enumerator all categories in which their calves belonged.

A hypothetical question was asked of all respondents. It asked whether the respondent would include or exclude as COF, any calves for which a decision to finish them or sell them as feeders had not been made. Many respondents told the enumerator they did not have calves awaiting a decision, and could not answer this question. Of those who did answer the question, approximately 75% would include "undecided" calves in their COF total.

INTRODUCTION

Survey researchers have developed a highly developed art of questionnaire design and interview procedures to reduce nonsampling errors and have carried out many studies to test aspects of that art.... Recently, however, survey researchers have recognized that among nonsampling errors are those occasioned by the cognitive processes that respondents are required to exercise in the survey interview situation. Respondents must often recall events and make judgements or estimates, and [researchers] always face issues of comprehension of the questions asked--their meaning to respondents as well as their meaning to interviewers. (Fienberg and Tanur, 1989)

Beginning with the January 1992 Agricultural Survey (AS), the National Agricultural Statistics Service (NASS) instituted a three phase reinterview and reconciliation program to assess the quality of cattle on feed (COF) reported data. The program focused on interviews with farmer-feeders who reported positive cattle inventories on the operational AS, rather than reinterviewing commercial feedlots. The focus on the smaller farmer-feeders was to investigate a hypothesis of overreporting of COF inventories within this group.

The program consisted of three phases designed to accomplish intermediate goals in transforming a research project into an operational program over a twelve month span. Overall goals of the program were to determine the existence of, and reasons for, any reporting errors; to gather information on the respondents' understanding of the AS questions; and to provide real-time response bias estimates of COF inventories for the Agricultural Statistics Board (ASB).

Phase 1 of the QA was conducted exclusively in Iowa, to develop the reinterview and reconciliation instruments, in conjunction with the January 1992 AS. Phase 2 was expanded to include Minnesota with the July 1992 AS. Phase 3 expanded to include five farmer-feeder States: Illinois, Iowa, Minnesota, Nebraska and South Dakota on the January 1993 AS.

The QA can be considered to have two parts: one series of questions used to determine the presence of a response bias, and a second series of cognitive questions used to investigate under- or overreporting of COF, and respondents' understanding of AS terms and questions. While data from one series aids in understanding data from the other, this paper will focus on the data and information received from the cognitive questions from Phase 3 of the program.

This program evolved as the Cattle on Feed Survey Quality Assessment (QA). The QA required a re-contact of respondents from the AS, and bore many similarities to previous reinterview studies which have followed this general format:

An office enumerator completes a telephone interview or Computer Assisted Telephone Interview (CATI) with a respondent;

A field enumerator will attempt a face to face reinterview with the original respondent within 10 days of the initial interview, or interview someone who can serve as the original respondent's proxy;

The field enumerator will use an exact copy of the initial survey instrument for the reinterview;

After the reinterview instrument is completed, the field enumerator will open a sealed envelope containing a reconciliation form showing the responses from the initial interview, the original respondent's name and the date of the interview;

When the initial and reinterview responses to a given question differ, the field enumerator will copy over to the reconciliation form the response from the reinterview, and place it next to the preprinted response from the initial interview;

After each survey item has been checked this way, the enumerator will ask the respondent to resolve the discrepancies, by choosing either the **initial** response, the **reinterview** response, or a **new, third** response as the best answer to a question;

This reconciled "best" answer is recorded, and considered to be the "truth" for all estimates of bias among responses to a question;

Explanations of the respondent's decision making process are also recorded, and when all discrepancies are reconciled, the reinterview is concluded.

The QA was a **departure** from the typical NASS reinterview survey in three ways:

1. For the QA, only a few selected questions from the initial survey instrument were kept, while two other initial questions were reworded, and cognitive questions not on the initial instrument were added. The resulting reinterview instrument was shorter and focused on the cattle items of interest.
2. Respondents from non-CATI initial interviews were included in the QA reinterview sample.
3. Written training materials and workshop sessions stressed that field enumerators should read the QA questions exactly as worded (NASS 1993a, 1993b).

Real-time indications and response bias estimates from the QA were to be available to the ASB at the same time as the operational survey indications were due.

While NASS staff are concerned about the respondent burden caused by a reinterview survey, the benefits of a reinterview can be great and NASS has historically enjoyed high response rates on reinterview surveys (Hanuschak, et al., 1991). Blair and Sudman (1992) have found that

even respondents who cooperate with reinterviews may find them burdensome. They found that it is possible to improve respondents' perceptions of reinterviews by stressing the quality control nature of the survey, and by including some new questions along with the repeated questions (Blair and Sudman, 1992). For this reason, the field enumerator introduction printed on the QA interview form reads as follows:

Hello, I am _____ with the (State) Agricultural Statistics Service. One of our interviewers contacted this household recently to obtain information for our January Agricultural Survey. We are reinterviewing a few of the people in the original survey, asking a few of the questions from that survey **and a few different questions** in order to **evaluate the quality of our survey procedures**. I would like to speak with the person most knowledgeable about this cattle operation. I would appreciate it if you would take the time to help me.

The January 1993 QA achieved a response rate of 82%. Table 2 in Appendix E shows the response by state for Phase 3 of the QA.

The need of federal agencies to rely on more than anecdotal evidence to examine how respondents interpret their questions and surveys was documented as early as 1983, with a chapter devoted to cognitive research in an Office of Management and Budget Statistical Policy Working Paper.

For an in-depth analysis of the presence of bias in the reporting of COF inventories, see Hood (1992, 1993). For respondent and enumerator comments about NASS surveys in general and the QA in particular, see appendices K and L.

BACKGROUND

The COF Survey QA is a three phase reinterview and reconciliation project, utilizing a subsample of AS farmer-feeders who reported positive cattle inventories. The focus on the farmer-feeders was to investigate a hypothesis of over-reporting of COF inventories within this group.

The QA program is unique in that it was designed to evolve over a span of twelve months from a research project in Phases 1 and 2 into an operational program in Phase 3. Overall goals of the program were to determine the existence of, and reasons for any reporting errors; to gather information on the respondents' understanding of the AS questions; and to provide real-time response bias estimates of COF inventories for the ASB.

Phase 1 was a pilot study conducted exclusively in Iowa during January of 1992, to field test training materials and reinterview and reconciliation instruments, and to work out the logistics for conducting the COF QA in the field. Headquarters staff, SSO staff and supervisory

enumerators teamed in groups of two to conduct the face to face QA interviews. Approximately 65 non-randomly selected CATI cattle samples located within 100 miles of the Des Moines SSO were selected for a QA, netting 32 completed interviews. Those respondents who could not be located during the initial contact were marked as inaccessible, leading to the low response rate.

During Phase 1 the techniques for printing reconciliation forms and distributing the QA interview materials to enumerators were refined. Results from this small, non-random sample were only anecdotal, but pointed to respondents misclassifying cattle when reporting.

Responses to the cognitive questions asking respondents to supply definitions to selected terms used in the operational questionnaire showed a wide range of interpretation of those terms.

Phase 1 was considered a success as the three stated objectives of the pilot study were met: the QA interview forms were field tested for suitability; staff became familiar with steps necessary to focus a QA on a specific subsample of the AS (respondents with cattle on feed inventories); and the methods necessary to extend QA to non-CATI initial interviews were developed.

Phase 2 utilized operational sized QA interview samples in Iowa and Minnesota during July of 1992. This phase included CATI and non-CATI components in the subsample of July AS respondents.

Enumerator training for this phase included home study with a QA Introductory Self Study Guide, a QA Interviewer's Manual, and one half day of workshop training provided by headquarters and SSO staff. Examples of QA interviews collected during the January pilot study were utilized in the training. Enumerators were trained on the QA interview form, reconciliation form and survey procedures.

The QA interview form was changed only slightly from the pilot study, and again was similar to but shorter than the operational survey instrument. Similar sections between the operational and QA instruments were SECTION 1 - IDENTIFICATION, where only the cattle question was retained among the screening questions; SECTION 2 - ACRES OPERATED; SECTION 6 - PARTNER NAMES; SECTION 7 - CHANGE IN OPERATOR; and SECTION 8 - CONCLUSION, where a transition to the reconciliation form was added.

In the QA SECTION 3 - CATTLE AND CALVES, only those questions needed to arrive at the total inventory were retained. In SECTION 4 - CATTLE ON FEED, only reworded questions concerning "total cattle and calves on feed" inventory and capacity were similar to the operational questions. In this section, operational questions concerning marketings and distributions by weight categories were replaced with cognitive questions meant to identify cattle being incorrectly (according to the NASS definition) included or excluded as COF.

Jobe and Mingay (1989) stress that of the four stages of the cognitive approach to questionnaire design, the critical first stage is, "*comprehension*, in which the respondent interprets the meaning of the question." Cognitive questions were built into the QA design to evaluate respondents'

interpretation and comprehension of survey definitions, concepts and question wording. Notable among these is QA SECTION 5 - TERMS AND RECORDS USAGE, where respondents were asked to provide definitions to terms used in the operational survey.

Reconciliation forms for the QA subsample from the certified (a preliminary check of coding) CATI interviews were printed each morning, and mailed to supervisory enumerators who distributed them to the enumerators. Reconciliation forms for non-CATI initial interviews were filled in by supervisory enumerators, who then distributed them to an enumerator other than the one who performed the initial interview.

QA results showed a significant difference for cattle on feed capacity between the initial and QA interviews for Iowa, Minnesota and the combined states' results. This is not too surprising since the QA version of this question differs from the operational question. The QA question wording was thought to reflect the underlying concept of interest, but it provided significantly lower capacity numbers. No other significant differences were detected between the initial interview responses and the QA reconciled values for any questions in this two state test. For more detailed information on the results of Phase 2, see Hood, 1992.

Phase 2 was successful in that providing real-time response bias estimates for the ASB was shown to be feasible, QA procedures for non-CATI initial interviews were field tested, and additional NASS units were consulted and involved in order to facilitate the transition of the QA from research to operational status for January of 1993.

In NASS headquarters, operational units had a large involvement in Phase 3 of the QA, from questionnaire and manual printing to sample design and summarization. In the field, Phase 3 further expanded the scope of the QA for the January 1993 AS to include five farmer-feeder States: Illinois, Iowa, Minnesota, Nebraska and South Dakota.

Based on experience from phases 1 and 2, only January 1993 AS completed interviews with a positive total cattle inventory were subsampled for the QA. AS interviews that reported zero cattle, reported to be out of business, or were refusals and inaccessible were **not** subsampled for the QA. Additionally, no operations from the January AS strata that had a probability of selection equal to one were subsampled for the QA, in order to minimize respondent burden at that level. Sample sizes for Phase 3 can be seen in Table 1 of Appendix E.

QA interviews were face to face reinterviews from both CATI and non-CATI initial interviews. Supervisory and experienced enumerators received four hours of workshop instruction in addition to home study time, and conducted all QA interviews. They were instructed to follow the QA questionnaire question wording and ordering **exactly as printed** so that the effects of different question wordings between the initial and the QA interviews could be studied. Examples of wording differences can be seen in Appendix G.

All QA interviews were to be completed within 10 days of the initial interview with the person most knowledgeable of the operation, regardless of who the respondent was for the initial

interview. Immediately upon completing the QA interview, the enumerator opened the envelope containing the initial interview responses and asked the respondent to assist in reconciling any differences in responses between the two interviews.

The reconciliation form used in January 1993 was shorter than the one used in January and July of 1992, and shorter than the one typically used with a NASS reinterview. Dropped from the reconciliation were questions relating to changes in operation, partners and "source of the difference" for different responses on the two interviews.

Choices for "source of the difference" in phases 1 and 2 were any of the following, either alone or in combination: the initial enumerator, the initial respondent, the QA enumerator, the QA respondent. Respondents tended to regard this as "placing blame" rather than helping to "evaluate the quality of our survey procedures".

By fine tuning the QA interview and reconciliation forms, the QA was as "user friendly" to the enumerators, respondents and office editors as was feasible and still allow the goals of the program to be accomplished. Relevant sections of the January 1993 AS questionnaire can be seen in Appendix H. The Phase 3 QA questionnaire is identical to the Phase 2 questionnaire, and can be seen in Appendix I. The Phase 3 reconciliation form can be seen in Appendix J.

Phase 3 of the QA was successful as the stated objectives for this phase were achieved:

- * operational staff rather than research staff had the main responsibility for the QA;
- * real-time estimates of response bias for COF items were provided to the ASB;
- * cognitive information from this phase provided evidence to maximize the usefulness of the cattle sections of the AS.

METHODS

The sample for the January 1993 QA was drawn from both the COF strata and the cattle strata in each state. For the analysis and reporting of certain data in this report, strata were combined within categories as **SMALL, MEDIUM, OR LARGE** operations. The way in which strata were combined is presented in Appendix F.

When reaching SECTION 5 of the QA interview, the enumerator would read the following to the respondent,

"Now I would like to discuss what some terms or words mean to you. Many times, terms mean different things to people living in different areas. This information will help us obtain the exact information that we are interested in. Please look at this card

[hand card to respondent] and tell me in your own words what each term means to you. If you are not familiar with a term, let me know and go on to the next one."

The show card the respondent received contained the following three items from the AS, in large print and well spaced for easy reading:

- a. cattle and calves on feed:
- b. backgrounding:
- c. calves (calf):

The enumerator would prompt the respondent simply by saying the term or phrase, and would then record the respondent's reply in full. The object was to see whether what came to mind for the respondent when considering these terms matched the NASS definition for the item. This is a form of *verbal probing* used extensively by Willis et al., (1991), or *frame-of-reference probing* as defined by Esposito, et al., (1991).

The NASS definition of COF supplied to enumerators (NASS, 1993c) is detailed, but too lengthy to be used on an AS instrument. The respondent's frame of reference for the NASS definition of COF can only come from fully reading the introductory remarks and question themselves, from having an enumerator fully read the introductory remarks and question to them, or by asking for and receiving an expanded explanation of the term from the enumerator.

The introductory remarks and COF inventory question from the January 1993 AS are the following:

We need to know about the cattle and calves on feed for the slaughter market. Their ration would include grain, silage, hay or protein supplement.

(INCLUDE cattle being fed by you for others.

EXCLUDE any of your cattle being custom fed in feedlots operated by others and cattle being "backgrounded only" for sale as feeders, for later placement on feed in another feedlot or to be returned to pasture.)

How many cattle and calves were on feed January 1 that will be **shipped directly** from your feedlot to slaughter market? **NUMBER ON FEED JAN 1** _____

Enumerators on the QA interview supplied no information on the meanings of the terms to respondents. Respondent supplied definitions to the terms were reviewed and categorized as being composed of positive and/or negative components, and summarized by two researchers. The categorization of positive or negative is relative to the NASS definition of the term. Positive components could match or be comparable to the NASS definition. Negative components are in conflict with the NASS definition. Respondent replies could cover one or more categories, with most respondents offering up to three distinct components of a definition for each term.

For example, the following definition of "cattle and calves on feed" was supplied by one Minnesota respondent:

"Cattle weighing 500 or more, on grain ration fed to go directly to slaughter market."

Referring to the five state summary of respondent definitions for this item in Appendix A, this response contributed one count in each of the following categories under **POSITIVE RESPONSES:**

CATTLE OVER 500 # ;
ON GRAIN RATION / ON FULL FEED ;
BEING FED FOR THE SLAUGHTER MARKET .

Notice, however, the lack of any mention of calves on feed in this respondent's reply. The omission of a part of a NASS definition was not counted as a negative response.

Consider the following definition for "cattle and calves on feed" from a Nebraska respondent:

"What people have gathered as statistics; cattle and calves being backgrounded for the market."

This response contributed one count in each of the following categories under **NEGATIVE RESPONSES:**

OTHER NEGATIVES ;
SPECIFICALLY INCLUDED BACKGROUNDING ANIMALS .

RESULTS OF THE REQUEST FOR DEFINITIONS

This section of the report will present the results of the respondent supplied definitions to terms from the AS. The term definition section of the QA questionnaire was designed to gather information on the cognitive underpinnings of the over- or underreporting of COF by respondents. Summaries of responses related to definitions are presented in Appendices A,B, and C by State. Appendix D provides counts by size strata.

Respondents were first requested to supply their definition for "cattle and calves on feed". The three most frequently mentioned components across the five states were

"Being fed for the slaughter market"	(299 replies, 25.8%),
"On grain ration / on full feed"	(297 replies, 25.6%),
and "Contained in a feedlot"	(136 replies, 11.7%),

all of which fall within the NASS definition for COF. These three components were among the four most frequently mentioned positive responses in each of the surveyed states.

In fact, the analysis of all replies for this phrase showed that 88% of all components mentioned were categorized as positive responses, within the scope of the detailed NASS definition supplied to enumerators. Only 12% of the components mentioned were negative responses, in conflict with the NASS definition. Success so far!

The percentage range of positive component responses for "cattle and calves on feed" across the five States is:

STATE	PERCENTAGE OF POSITIVE COMPONENTS	TOTAL NUMBER OF COMPONENTS MENTIONED
Minnesota	83	216
Illinois	87	264
South Dakota	89	188
Nebraska	90	193
Iowa	91	299
Five States	88	1,160

This definition supplied by a Nebraska respondent is full of positive components: "Feedlot animals getting high concentrate, full feed of corn, some silage, other roughage -- reaching approximately 1150+, will go to slaughter market." But a Minnesota reply was less clear: "Everything except cows. Everything on the place."

On the negative side, in their free-form replies for this definition, 7 times as many respondents in the five States combined specifically included backgrounding animals (51 replies, 4.4%) as specifically **excluded** them (7 replies, 0.6%). Within each State, at least 3 times as many respondents included backgrounding animals in their definition as excluded them.

Respondents were then to supply their definition for "backgrounding". The three most frequently mentioned positive components across the five States were

- "Readying for feedlot/readying for full feed" (148 replies, 14.4%),
- "Growing to sell to someone else to fatten" (134 replies, 13.0%),
- and "On limited rations" (99 replies, 9.6%),

which fall within the NASS definition for backgrounding supplied with the AS instrument and/or to enumerators (NASS, 1992). These three components were among the four most frequently mentioned positive responses in each of the surveyed States, except in Nebraska, where "On limited rations" was ranked tenth in frequency.

One Iowa reporter provided a very solid definition for backgrounding: "Weaned, limited grain ration, grass pasture, harvested corn field pasture, then sold as feeders." But a South Dakota respondent missed the mark with, "Breeding histories. Knowing the bloodlines all down the line."

The analysis of replies for this term showed that 83% of all components mentioned were categorized as positive responses, within the scope of the detailed NASS definition. The remaining 17% of the components mentioned were negative responses, in conflict with the NASS definition.

The percentage range of positive component responses for "backgrounding" across the five States is:

STATE	PERCENTAGE OF POSITIVE COMPONENTS	TOTAL NUMBER OF COMPONENTS MENTIONED
Minnesota	62	179
Iowa	84	263
Illinois	87	260
South Dakota	90	178
Nebraska	93	151
Five States	83	1,031

It is important to note that the negative response of "Don't know" was the second most frequent response (141 replies, 13.7%) given by respondents across the five states when defining "backgrounding". The definition of backgrounding was not provided during the QA interview as the *INCLUDE* and *EXCLUDE* were eliminated from the COF inventory question as part of the cognitive research on the QA.

A respondent on the AS becomes aware of the NASS definition of backgrounding, and knows to exclude these animals from the COF inventory number, by reading the question on a mailed questionnaire or by having an enumerator fully read the question during an interview. **The definition of backgrounding and the *EXCLUDE* are printed within the body of the question**

on the AS, but the message is not getting across, probably due to the vast amount of information we are trying to convey in a telephone interview setting.

Respondents were then to supply their definition for the third and final term of the group, "calves (calf)". If a respondent asked what we were looking for here, enumerators were trained to reply, and the questionnaire showed, "To you, are calves a certain weight, age, size, or something else?"

The three most frequently mentioned positive components across the five States were

- "Up to 500 #" (197 replies, 22.3%),
- "Up till weaning" (184 replies, 20.8%),
- and "Under one year / up to a yearling" (118 replies, 13.4%).

These three components were among the four most frequently mentioned positive responses in each of the surveyed States.

Of the positive response components listed in Appendix A for the definition of a calf, only "Up to 500 #" is in scope with the NASS definition of all breeds of "young cattle weighing less than 500 pounds" (NASS 1992, 1993c). Since the January AS specifically asks for "**heifer, steer and bull calves** weighing less than 500 pounds, including newborn calves?", it is a positive indication that so many respondents would freely supply that definition themselves.

The analysis of replies for this term showed that 99% of all components mentioned were categorized as positive responses. The remaining 1% of the components mentioned were negative responses, in conflict with the NASS definition.

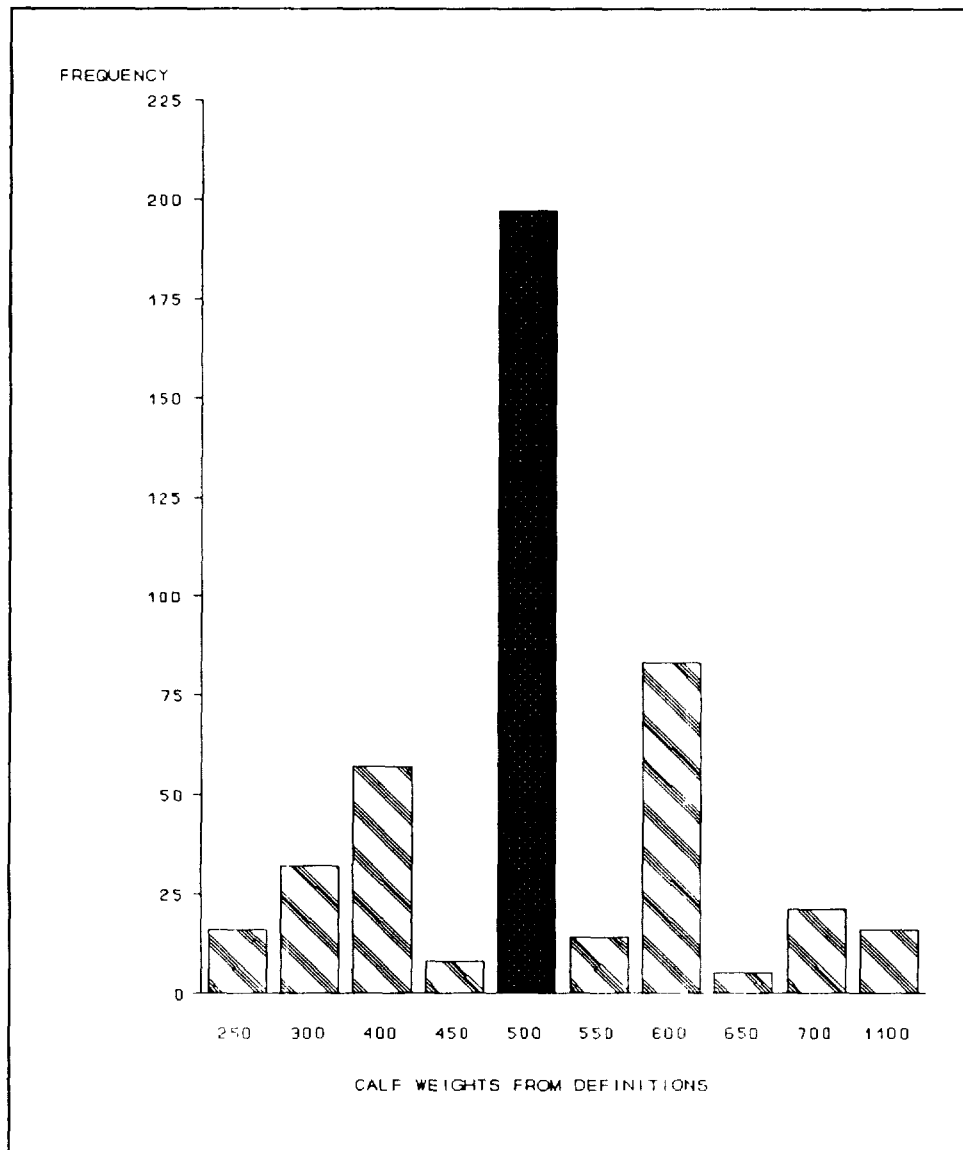
The percentage range of positive component responses for "calves (calf)" across the five States is:

STATE	PERCENTAGE OF POSITIVE COMPONENTS	TOTAL NUMBER OF COMPONENTS MENTIONED
Minnesota	97	147
Iowa	98	218
Illinois	99	187
South Dakota	99	152
Nebraska	100	179
Five States	99	883

But these high percentages of positive components for "calves (calf)" are due to the large number of responses considered "comparable to" (rather than in conflict with) the NASS definition. **Technically**, the only positive response for "calves (calf)" would be "Up to 500 #", changing the percentage of positive components for the five states to **22%** rather than 99%. The researchers categorizing the respondent definitions considered that replies of "Up to weaning", age groupings and other weight classes, while out of scope of the NASS definition, were not in direct conflict with it. Respondents supplied fewer multiple responses for this term relative to the other two and seemed to have a definite view of what a calf is to them.

The eighteen calf definition components supplied by respondents can be categorized within three criteria: **weight, age or whether they are weaned**. Among the calf **weights** offered by respondents, while "Up to 500 pounds" was the most frequent reply, ten different weight groups were reported. Several respondents, particularly in Illinois and South Dakota, made final comments supporting this message: "We need to change the weight categories for calves. Make the maximum 600 pounds." As the following graph shows, there were a good number of responses at 600 pounds, and at 400 pounds as well.

CALF WEIGHTS FROM RESPONDENT DEFINITIONS



The most frequent **age** definition for a calf was "Under 1 year / up to a yearling", with four other age groups specified. "Up till **weaning**" was also a popular definition among respondents. According to one Nebraska reporter, "It's a calf until it's weaned, then it can go to breeding stock or to feed or wherever. It's impossible for an unweaned calf to be backgrounding or on full feed."

Considering the many calf definitions among our reporters, the NASS criterion defining a calf should be emphasized within the "calf" question of cattle inventory. This is evidenced by one

Illinois respondent's comment, "Be sure that both parties understand the terms being used. Just tell us cattlemen what you want."

When reconciling differences on COF inventory numbers between the AS and the QA interview, only 28 respondents (11%) chose their initial COF inventory response over their QA response:

Reconciled Value for Truth Equalled:	Frequency	Percentage
AS INTERVIEW RESPONSE	28	11
QA INTERVIEW RESPONSE	189	77
EITHER RESPONSE	26	10
A NEW, THIRD RESPONSE	4	2
	247	100%

This is interesting since respondents had more information affecting their decision making process in the form of the *INCLUDE* and *EXCLUDE* on the AS, but not on the QA, and yet respondents overwhelmingly selected their reinterview response as the reconciled "truth" value.

RESULTS OF "CALVES OVER 500 POUNDS?"

After providing an inventory of their cattle and calves, respondents were asked, "I have already asked about calves less than 500 pounds. Were there any calves on this operation over 500 pounds?". For those who answered that they did have calves weighing more than 500 pounds, three additional questions were asked to determine how many calves fit this description, what their average weight was, and whether they were included in the cattle and calves inventory.

Of the 865 respondents who provided a cattle and calf inventory, 292 (33.8%) indicated that they had calves weighing over 500 pounds on their operation. The following table provides information from this series of questions:

CALVES IN PREVIOUS INVENTORY?	NUMBER OF RESPONSES	CALVES REPORTED, NUMBER	CALVES REPORTED, PERCENT	CALVES EXPANDED, NUMBER	CALVES EXPANDED, PERCENT
YES	262	45,877	90.4%	1,704,611	90.9%
NO	30	4,856	9.6%	171,198	9.1%

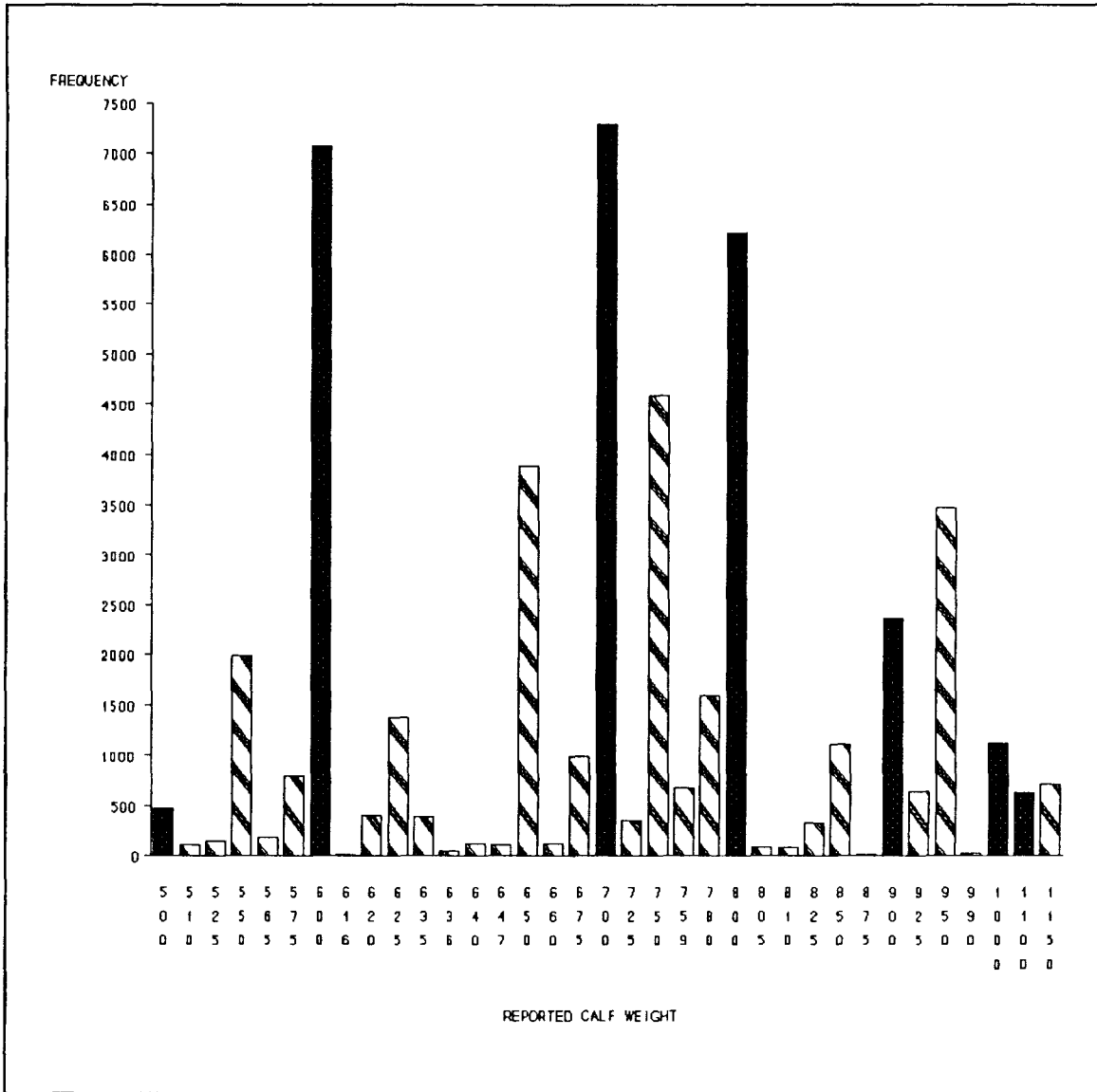
Differences between respondents' definitions of a calf and NASS' definition led to more than 9 percent underreporting of larger animals that respondents consider to be calves in this research. One South Dakota respondent made the comment, "You need a place on the form to record the calves from 500 pounds on up." This could be one option, and clearly some change in the way the inventory is collected needs to be made to capture these unreported animals considered by the respondents to be "calves".

Where did the 90.4% of calves weighing over 500 pounds get reported in the cattle and calves inventory? A detailed analysis yielded the following information:

CATEGORY	NUMBER OF RESPONSES	CALVES REPORTED, NUMBER
Beef Cows	16	1,407
Milk Cows	0	0
Bulls	1	20
Heifers	27	2,288
Steers	25	3,101
Calves	9	222
Calves + Heifers	2	86
Calves + Steers	2	200
Calves + Heifers + Steers	3	395
Heifers + Steers	35	5,212
Unknown Combinations	142	32,946
	262	45,877

Respondents estimated the average weight of their "calves over 500 pounds", and provided the information displayed in the following graph:

THE NUMBER OF HEAD REPORTED WITH CALF WEIGHTS OVER 500 POUNDS



Clearly, many respondents consider an animal to be a calf well beyond the weight class specified in NASS' survey instruments. Some consideration must be given to increasing the NASS weight definition of a calf. Whatever defining weight for a calf is used by NASS, it should be stressed within the question to inform respondents of our categorization.

RESULTS OF "CALVES ON FEED"

Within Section 4 of the QA questionnaire, data are collected on the respondent's COF total for January 1, and the maximum number of COF the respondent normally feeds at any one time. For a detailed analysis of these two questions, please see Hood (1993). The other questions in Section 4 are to determine whether the respondent's COF reported total meets the NASS definition, or whether animals are being incorrectly included or excluded. The analyses of these questions follows.

Question 2 was designed to determine the presence of backgrounding animals on the operation:

2. Do you (this operation) have any cattle and calves that will go to another feedlot, be returned to pasture or go somewhere else **before** going to the slaughter market?

(if NO, continue) (if YES) 2a. How many? _____

Enumerator notes indicated that many respondents commented that this was a new question for us, that we usually do not ask about cattle which the operation is not going to finish for the market. In fact, there are questions on the AS concerning outshipments to other feedlots and cattle returned to grazing, but only covering the month preceding the survey reference date. It could be that not asking for the backgrounding cattle and calves separately leads some respondents to include them in their COF total.

Of the 446 respondents who provided a COF total, 128 (28.7%) reported backgrounding cattle numbers in question 2. They reported 15,524 head, or an average of 121 head per respondent. The expanded total for cattle reported here is 899,804 head.

Next respondents were asked:

3. Have we missed any cattle or calves that you feel should be included as Cattle on Feed?

(if NO, continue) (if YES) 3a. How many? _____

3b. Why were they not included?

This question is designed to identify underreporting of COF by the respondent, and to solicit the respondent's help in identifying why the cattle were not included in the previously asked total. After providing their COF total, followed by their backgrounding total, only 4 respondents replied "Yes" to this question, reporting a combined 59 head (expanded value: 2,126). This certainly indicates that underreporting is NOT a problem with COF totals.

Comments explaining why the 59 head were not included in the COF total stated that the cattle were held somewhere on the property other than in a feedlot.

Question 4 was a screening question for the presence of calves less than 500 pounds either backgrounding or on full feed on the operation. Respondents who answered YES to the screening question were asked questions 4a (COF calves) and 4b (backgrounding calves). Question 4a reads as follows:

4a. Will any of these calves be finished on this operation for the slaughter market?

(if YES) 4a1. How many? _____

4a2. Did you count them in the [Item 1] cattle on feed?
 [YES = Code 1; NO = Code 3] _____

(if NO) [Go to question 4b.]

Responses to the questions are shown in the table below:

COUNTED IN COF	NUMBER OF RESPONSES	NUMBER OF CALVES	EXPANDED NUMBER OF CALVES
YES	76	2,753	192,714
NO	68	1,855	129,193

This is further evidence of the underreporting of calves within the COF inventory. Respondents were nearly as likely to exclude as COF calves to be finished on their operation for the slaughter market as they were to include them.

Question 4b reads:

4b. Will any of them be moved to another feedlot, returned to pasture, or sold as feeders?

(if YES) 4b1. How many?..... _____

4b2. Did you count them in the [Item 1] cattle on feed?
 [YES = Code 1; NO = Code 3]..... _____

(if NO) [Go to question 5.]

Responses to the questions are shown in the table below:

COUNTED IN COF	NUMBER OF RESPONSES	NUMBER OF CALVES	EXPANDED NUMBER OF CALVES
YES	19	2,714	76,676
NO	73	3,323	210,622

While a large majority of respondents to this question follow the NASS definition and exclude their backgrounding calves from their COF inventory, there are nearly 21% of respondents who are incorrectly reporting their backgrounding calves as COF.

Thirty-three (16.3%) respondents answered both questions 4a and 4b (had both COF calves and backgrounding calves). The responses to those questions show that most respondents with calves under 500 pounds had made a decision about whether to finish the calves themselves or sell them to be finished by someone else, and could relate to the enumerator all categories in which their calves belonged.

Question 5 is a hypothetical question asked of all respondents. It asks whether the respondent would include or exclude as COF, any calves for which a decision to finish them or sell them as feeders had not been made. Being positioned after question 4 in which the decisions about real calves had been related, many respondents told the enumerator that they did not have calves that they had not made a decision about, and could not answer this question. Here are the results for the other respondents who did answer this question:

COUNT THEM AS COF	NUMBER OF RESPONSES	PERCENTAGE
Include	94	75.2
Don't Know	13	10.4
Exclude	18	14.4

Approximately 75% of respondents to this question would include calves which they had not made a decision about in their COF total. This is in conflict with earlier data from this research which indicate the underreporting of calves in the cattle and calves on feed inventory. Since this is a hypothetical question rather than a question requiring information from their operation, respondents may have been too willing to tell us what they thought we wanted to hear.

DISCUSSION AND RECOMMENDATIONS

Recommendation 1:	Precede the AS COF total inventory question with a question designed to account for all backgrounding cattle and calves on the operation.
--------------------------	---

Recommendation 2:	Replace the term and definition of backgrounding on the AS COF total inventory question with the phrase, "exclude all cattle and calves reported in the previous question".
--------------------------	---

Our respondents in these five farmer-feeder states have difficulty with the term backgrounding. In defining what "cattle and calves on feed" meant to them, 7 times as many respondents in the five states specifically included backgrounding animals (51 replies, 4.4%) in their definition as specifically excluded them (7 replies, 0.6%). When asked to provide their own definition for backgrounding, 141 respondents (13.7% of responses for this term) replied, "I don't know". These results are despite the fact that the AS questionnaire contains a definition for backgrounding within the body of the COF total inventory question.

Specifically, part of the question states:

***EXCLUDE** any of your cattle being custom fed in feedlots operated by others and cattle being "backgrounded only" for sale as feeders, for later placement on feed in another feedlot or to be returned to pasture.)*

The next sentence of the question asks for the NUMBER of cattle and calves going directly from the operation to the slaughter market. While meant to exclude backgrounding animals from this total, the EXCLUDE statement has the opposite effect on many respondents. This may be due several factors:

1. telephone and field enumerators may not read the full question to the respondents, but skip ahead to the "how many" during the interview.
2. respondents may not read the entire questionnaire when completing it themselves.
3. a "recency" effect may occur, meaning that the last thing (backgrounding) the respondent hears before "how many" causes those head to be included regardless of the question's intent.
4. the interpretation of the terms "backgrounding" and "cattle and calves on feed" by the respondent -- that is, to some respondents, these terms mean the same

thing, and they ignore the EXCLUDE when hearing these terms together in the question.

5. the question is too long, and respondents stop listening to the include and exclude and begin formulating their answer without all of the information NASS wishes them to have.

Preceding the AS COF total inventory question with a question designed to account for all backgrounding cattle and calves on the operation would solve these five possible problems.

- * being a separate question, enumerators and respondents are less likely to ignore it.
- * if a recency effect occurs, hearing about backgrounding in a "backgrounding only" question supports the intent of the question.
- * if the terms "backgrounding" and "cattle and calves on feed" mean the same thing to a respondent, being asked about them in separate questions will impress upon them that NASS views the terms as different.
- * if respondents are tuning out due to a too long question, more succinct questions are in order.

Analysis of Section 4 of the QA, particularly questions 2 and 4b, shows that respondents can provide the numbers of their backgrounding cattle and calves. Of the 446 respondents who provided a COF total on the QA, 128 (28.7%) additionally reported backgrounding cattle numbers. They reported 15,524 head (899,804 head expanded), or an average of 121 head per respondent. With some respondents commenting that these questions were a new approach for NASS, this is a positive sign for including a question of this type on the AS.

Recommendation 3:	Review the appropriateness of maintaining the NASS weight definition of a calf as "weighing less than 500 pounds".
--------------------------	--

Recommendation 4:	Emphasize the NASS weight definition of a calf within the "number of calves" question.
--------------------------	--

The two graphs within this report show that many respondents define a calf by other weights than the NASS standard of "less than 500 pounds". Of those who supplied a weight when

providing their own definition of "calves (calf)", 268 (58%) mentioned a category other than the NASS standard. In reporting their number of calves on their operation **over** 500 pounds, 292 respondents reported 50,733 calves, 9.6% of which were **not** included in the previous cattle and calves inventory.

Clearly, many respondents consider an animal to be a calf above the weight class specified in NASS' survey instruments. Some consideration must be given to increasing the NASS weight definition of a calf. Whatever defining weight for a calf is used by NASS, it should be emphasized within the question to inform respondents of our categorization.

Recommendation 5:	Provide respondents with a show card list of cattle and COF definitions along with any presurvey letter sent.
--------------------------	---

Various findings from this research indicate that respondents' definitions of cattle and COF terms do not match the NASS definitions. In providing their definitions of "cattle and calves on feed", 12% of respondent replies were in conflict with the NASS definition, and for "backgrounding", 17% of replies were in conflict with the NASS definition. For the definition of a calf, this report has shown that respondents utilize a wide range of defining concepts.

While not an area of study for this research, respondent comments also indicate that respondents have difficulty with the term "heifer" being used repeatedly in the AS cattle inventory questions.

Respondent comments show a willingness to work with NASS and adhere to NASS proposed definitions -- if we will only tell the respondents what our definitions are.

Recommendation 6:	Impress upon the respondent that we <u>are</u> interested in calf numbers when we ask about "...cattle and calves on feed for the slaughter market."
--------------------------	---

The analysis of question 4 in Section 4 of the QA shows that respondents with calves on feed for the slaughter market are nearly as likely to exclude these numbers from their total number of COF as to include them.

This could be addressed in several ways:

- * clearly identify calves on feed for the slaughter market as being included in the total COF on the show card of definitions (Recommendation 5) given to respondents.

- * train telephone and field enumerators to stress "cattle and calves" in "How many cattle and calves were on feed...". An enumerator who asks "How many head were on feed..." defeats the purpose of the question.
- * underline cattle and calves so that respondents on self administered questionnaires notice the components linked together.
- * Stanley (1993) recommends that, "An additional question about CALVES on feed should be included on the questionnaire." While this may change the format of the Cattle on Feed Section of the AS, it may be the best solution for collecting the highest quality data.

Recommendation 7: Continue with the operational QA for January of 1994.

In January, 1993 real-time indications and response bias estimates from the QA were available to the ASB at the same time as the operational survey indications. If the ASB wants these real time indications and bias estimates, the program is in place to support them.

Unless further supporting evidence is required to effect changes to the COF section of the AS, some of the cognitive questions can be removed from the QA. Questions of this type are not necessary on a continual basis, but should be used to gain insight into a situation, to test new questions and new versions of questions, and to examine changes in questions and programs. Removing some of the cognitive questions would shorten the already brief QA.

These questions could be included in the QA on a every other year, or every third year basis in order to study respondent tendencies over time.

An exception to this would be to retain some version of the feedlot capacity question. It could be that the best version of this is not currently on either the AS or the QA.

Recommendation 8: Commodity statisticians should investigate how cognitive research can be utilized to reinforce the data quality of their commodity of interest, and pursue a contact with the Questionnaire Design Section or Research Division to develop a plan of action.

Cognitive research is not a type of Technical Review designed to evaluate current survey methodology. Cognitive research can identify the strengths and weaknesses in a survey

instrument, mode of data collection or survey procedure. It can be a data collection device to provide information for future decision making. It offers the potential to quickly gather field information where an operational survey or procedure cannot.

Cognitive research is also an effective public relations tool. It lets respondents know that we are attempting to collect the best possible information, and that we need not only their data but their assistance to accomplish this goal.

While regularly scheduled cognitive research is only a long-range goal for NASS, Tanur and Fienberg (1992) are recommending ongoing cognitive research for other federal agencies now:

What we are recommending is the "reservation" of a subsample in on-going surveys to be used for embedded experiments. Using 10% of the households in the CPS at least once or twice a year for carefully designed experiments would occasion little degradation of the accuracy of the CPS (with a total of over 60,000 households reporting per month) but it would provide an ample sample size for well-controlled experiments linked to proposals for methodological improvements coming out of the cognitive laboratories of the Bureau of the Census and the Bureau of Labor Statistics.

REFERENCES

Blair, J., and Sudman, S. (1992), "Respondent Perceptions of Reinterviews." Paper presented at the Bureau of the Census Annual Research Conference, Arlington, Virginia, March 1993. Survey Research Center, University of Maryland.

Esposito, J.L., Campanelli, P.C., Rothgeb, J., and Polivka, A.E. (1991). "Determining Which Questions are Best: Methodologies for Evaluating Survey Questions." Proceedings of the Section on Survey Research Methods, American Statistical Association Annual Meeting, Atlanta, Georgia, August 1991.

Fienberg, S.E., and J.M. Tanur (1989), "Combining Cognitive and Statistical Approaches to Survey Design." Science, 243, 1017-1022.

Hanuschak, G., Atkinson, A.D., Iwig, W.C., and Tolomeo, V. (1991), "History of Reinterview Studies at NASS." Paper presented at the 1991 Joint Statistical Meetings, Atlanta, Georgia, August 1991. United States Department of Agriculture, National Agricultural Statistics Service, Research Division.

Hood, R. (1992), Analysis of Response Bias in the January 1992 Cattle on Feed Reinterview Pilot Study and the July 1992 Cattle on Feed Reinterview Study. United States Department of Agriculture, National Agricultural Statistics Service, Research Division, SRB Research Report Number SRB-92-09.

Hood, R. (1993), Analysis of Response Bias in the January 1993 Cattle on Feed Survey Quality Assessment. United States Department of Agriculture, National Agricultural Statistics Service, Research Division, SRB Research Report Number SRB-93-07.

Jobe, J.B., and Mingay, D.J. (1989), "Cognitive Research Improves Questionnaires." American Journal of Public Health, 79(8), 1053-1055.

National Agricultural Statistics Service (1992), NASDA Enumerator Interviewer's Manual.

National Agricultural Statistics Service (1993a), Cattle on Feed Survey Quality Assessment Program Interviewer's Manual.

National Agricultural Statistics Service (1993b), An Introductory Self Study, Cattle on Feed Survey Quality Assessment Program, January 1993.

National Agricultural Statistics Service (1993c), Agricultural Surveys, Interviewer's Manual, June 1993 - May 1994.

Office of Management and Budget (1983), Approaches to Developing Questionnaires, Statistical Policy Working Paper 10.

Stanley, J. (1993), An Examination of the Cognitive Processes Involved in Answering Cattle on Feed Inventory Questions. United States Department of Agriculture, National Agricultural Statistics Service, Survey Management Division, DCB Staff Report Number DCB-93-01.

Tanur, J.M., and Fienberg, S.E. (1992), "Cognitive Aspects of Surveys: Yesterday, Today, and Tomorrow." Journal of Official Statistics, 1, 5-17.

Willis, G.B., Royston, P., and Bercini, D. (1991), "The Use of Verbal Report Methods in the Development and Testing of Survey Questionnaires." Applied Cognitive Psychology, 5, 251-267.

APPENDIX A

RESPONDENT DEFINITIONS OF "CATTLE AND CALVES ON FEED"
 JANUARY 1993 QUALITY ASSESSMENT SURVEY

	IOWA	ILL.	MINN.	NEBR.	S. DAK.	TOTAL
POSITIVE RESPONSES:						
BEING FED FOR THE SLAUGHTER MARKET	79	73	61	43	43	299
ON GRAIN RATION / ON FULL FEED	87	64	54	38	54	297
BEING FED SILAGE	6	14	5	3	2	30
BEING FED HAY AND / OR CORN	9	16	11	10	2	48
BEING FED CONCENTRATE	15	11	7	7	13	53
FEED TO 1100 - 2000 #	4	2	1	3	-	10
FEED TO 700 - 1000 #	3	1	-	8	9	21
CATTLE OVER 500 #	7	3	7	8	3	28
FAT CATTLE / "FATS"	10	8	7	10	1	36
CONTAINED IN A FEEDLOT	36	29	9	30	32	136
MARKET WITHIN A TIMEFRAME	6	-	2	1	3	12
SPECIFICALLY EXCLUDED BACKGROUNDING ANIMALS	-	2	2	1	2	7
OTHER POSITIVES	10	6	14	11	3	44
NEGATIVE RESPONSES:						
DON'T KNOW	5	3	5	-	7	20
THE INVENTORY ON HAND	2	16	13	1	1	33
CATTLE AND CALVES ON FEED	5	6	8	4	3	26
SPECIFICALLY INCLUDED BACKGROUNDING ANIMALS	14	10	8	12	7	51
OTHER NEGATIVES	1	-	2	3	3	9

APPENDIX B

**RESPONDENT DEFINITIONS OF "BACKGROUNDING"
JANUARY 1993 QUALITY ASSESSMENT SURVEY**

	IOWA	ILL.	MINN.	NEBR.	S. DAK.	TOTAL
POSITIVE RESPONSES:						
WEANED CALVES	13	9	3	4	9	38
FEEDER CATTLE	32	13	20	3	5	73
ON LIMITED RATIONS	30	35	8	8	18	99
GROWING TO SELL TO SOMEONE ELSE TO FATTEN	47	33	21	15	18	134
FEED TO WEIGHTS GREATER THAN 800 #	-	-	1	-	12	13
FEED TO 800 #	10	-	2	9	14	35
FEED TO 750 #	2	-	-	-	3	5
FEED TO 700 #	12	5	3	14	2	36
FEED TO WEIGHTS LESS THAN 700 #	2	3	2	-	2	9
GROW TO OVER 500 #	1	7	-	2	-	10
WEIGHT, UNSPECIFIED	-	9	4	9	3	25
UP TO A YEARLING	5	3	4	3	-	15
FEED A GROWING RATION	2	6	1	16	12	37
READYING FOR FEEDLOT / READYING FOR FULL FEED	31	44	28	22	23	148
IN PASTURE OR FIELDS BEFORE THE FEEDLOT	9	18	2	10	7	46
COULD GO TO GRASS OR FEEDLOT	1	1	-	10	4	16
FED ROUGHAGE, HAY, SILAGE, STALKS	17	19	5	9	23	73
OTHER POSITIVES	8	21	7	6	5	47
NEGATIVE RESPONSES:						
DON'T KNOW	37	25	56	10	13	141
BREEDING HISTORY / BREEDING STOCK	3	6	10	-	2	21
OTHER NEGATIVES	1	3	2	1	3	10

APPENDIX C

RESPONDENT DEFINITIONS OF "CALVES (CALF)"
 JANUARY 1993 QUALITY ASSESSMENT SURVEY

	IOWA	ILL.	MINN.	NEBR.	S. DAK.	TOTAL
POSITIVE RESPONSES:						
UP TILL WEANING	51	36	26	37	34	184
UP TO WEIGHTS GREATER THAN 700 #	5	2	2	1	6	16
UP TO 700 #	7	2	2	3	7	21
UP TO 650 #	4	-	-	-	1	5
UP TO 600 #	31	20	7	11	14	83
UP TO 550 #	4	4	-	6	-	14
UP TO 500 #	35	62	41	30	29	197
UP TO 450 #	-	2	2	1	3	8
UP TO 400 #	11	14	19	8	5	57
UP TO 300 #	7	5	14	1	5	32
UP TO WEIGHTS LESS THAN 300 #	2	1	10	2	1	16
WEIGHT, UNSPECIFIED	4	5	2	3	2	16
UNDER 1 YEAR / UP TO A YEARLING	36	18	17	19	28	118
UNDER 10 MONTHS	1	-	3	1	2	7
UNDER 8 MONTHS	-	1	5	1	2	9
UNDER 6 MONTHS	1	3	13	4	3	24
AGE, UNSPECIFIED	2	4	4	4	3	17
OTHER POSITIVES	13	7	12	11	5	48
NEGATIVE RESPONSES:						
OTHER NEGATIVES	4	1	-	4	2	11

APPENDIX D

DEFINITIONS OF "CATTLE AND CALVES ON FEED" BY STRATA
JANUARY 1993 QUALITY ASSESSMENT SURVEY

	<u>CATTLE ON FEED STRATA</u>			<u>CATTLE STRATA</u>			TOTAL
	SMALL	MEDIUM	LARGE	SMALL	MEDIUM	LARGE	
POSITIVE RESPONSES:							
BEING FED FOR THE SLAUGHTER MARKET	211	22	11	43	11	1	299
ON GRAIN RATION / ON FULL FEED	211	22	6	48	9	1	297
BEING FED SILAGE	24	1	-	4	-	1	30
BEING FED HAY AND / OR CORN	32	5	2	9	-	-	48
BEING FED CONCENTRATE	34	7	2	8	2	-	53
FEED TO 1100 - 2000 #	5	-	1	3	1	-	10
FEED TO 700 - 1000 #	15	3	1	2	-	-	21
CATTLE OVER 500 #	20	2	1	5	-	-	28
FAT CATTLE / "FATS"	30	1	-	5	-	-	36
CONTAINED IN A FEEDLOT	92	14	7	19	3	1	136
MARKET WITHIN A TIMEFRAME	6	3	-	3	-	-	12
SPECIFICALLY EXCLUDED BACKGROUNDING ANIMALS	6	-	-	-	1	-	7
OTHER POSITIVES	32	5	2	5	-	-	44
NEGATIVE RESPONSES:							
DON'T KNOW	16	1	-	3	-	-	20
THE INVENTORY ON HAND	25	2	1	5	-	-	33
CATTLE AND CALVES ON FEED	20	1	1	3	1	-	26
SPECIFICALLY INCLUDED BACKGROUNDING ANIMALS	36	5	1	7	1	1	51
OTHER NEGATIVES	5	1	1	1	1	-	9

APPENDIX D - continued

DEFINITIONS OF "BACKGROUNDING" BY STRATA
 JANUARY 1993 QUALITY ASSESSMENT SURVEY

	<u>CATTLE ON FEED STRATA</u>			<u>CATTLE STRATA</u>			TOTAL
	SMALL	MEDIUM	LARGE	SMALL	MEDIUM	LARGE	
POSITIVE RESPONSES:							
WEANED CALVES	29	1	-	7	1	-	38
FEEDER CATTLE	52	7	-	13	-	1	73
ON LIMITED RATIONS	76	9	-	11	2	1	99
GROWING TO SELL TO SOMEONE ELSE TO FATTEN	96	19	-	17	1	1	134
FEED TO WEIGHTS GREATER THAN 800 #	10	2	-	-	1	-	13
FEED TO 800 #	21	5	-	5	4	-	35
FEED TO 750 #	2	3	-	-	-	-	5
FEED TO 700 #	25	3	3	4	1	-	36
FEED TO WEIGHTS LESS THAN 700 #	6	2	-	1	-	-	9
GROW TO OVER 500 #	8	-	-	-	2	-	10
WEIGHT, UNSPECIFIED	17	4	-	2	1	1	25
UP TO A YEARLING	12	2	-	-	1	-	15
FEED A GROWING RATION	23	4	3	3	3	1	37
READYING FOR FEEDLOT / READYING FOR FULL FEED	111	8	6	18	5	-	148
IN PASTURE OR FIELDS BEFORE THE FEEDLOT	38	-	-	8	-	-	46
COULD GO TO GRASS OR FEEDLOT	8	3	5	-	-	-	16
FED ROUGHAGE, HAY, SILAGE, STALKS	53	7	4	6	3	-	73
OTHER POSITIVES	29	6	1	8	3	-	47
NEGATIVE RESPONSES:							
DON'T KNOW	102	7	2	30	-	-	141
BREEDING HISTORY / BREEDING STOCK	16	-	-	5	-	-	21
OTHER NEGATIVES	8	-	-	1	1	-	10

APPENDIX D - continued

DEFINITIONS OF "CALVES (CALF)" BY STRATA
 JANUARY 1993 QUALITY ASSESSMENT SURVEY

	<u>CATTLE ON FEED STRATA</u>			<u>CATTLE STRATA</u>			TOTAL
	SMALL	MEDIUM	LARGE	SMALL	MEDIUM	LARGE	
POSITIVE RESPONSES:							
UP TILL WEANING	130	16	5	29	3	1	184
UP TO WEIGHTS GREATER THAN 700 #	7	3	-	4	2	-	16
UP TO 700 #	13	5	1	2	-	-	21
UP TO 650 #	3	-	-	1	1	-	5
UP TO 600 #	56	10	2	13	1	1	83
UP TO 550 #	7	2	2	2	1	-	14
UP TO 500 #	146	14	4	29	4	-	197
UP TO 450 #	6	1	-	-	1	-	8
UP TO 400 #	37	8	3	8	1	-	57
UP TO 300 #	25	1	-	5	1	-	32
UP TO WEIGHTS LESS THAN 300 #	12	-	-	3	-	1	16
WEIGHT, UNSPECIFIED	14	1	-	1	-	-	16
UNDER 1 YEAR / UP TO A YEARLING	71	12	5	21	8	1	118
UNDER 10 MONTHS	3	1	1	2	-	-	7
UNDER 8 MONTHS	8	1	-	-	-	-	9
UNDER 6 MONTHS	20	1	-	3	-	-	24
AGE, UNSPECIFIED	13	1	-	2	1	-	17
OTHER POSITIVES	32	2	2	12	-	-	48
NEGATIVE RESPONSES:							
OTHER NEGATIVES	11	-	-	-	-	-	11

APPENDIX E

Table 1. January Cattle on Feed Survey Quality Assessment Sample Sizes.

State	Jan. Ag Sample Size	CATI QA Sample Size	Non-CATI QA Sample Size	Total QA Sample Size	Expected Reinterview Usables
Illinois	3,752	---	230	230	160
Iowa	4,473	175	95	270	195
Minnesota	4,233	175	85	260	185
Nebraska	3,586	180	90	270	150
S. Dakota	3,366	170	50	220	160
Total	19,410	700	550	1,250	850

Table 2. Response Coding on the January 1993 COF Survey Quality Assessment.

State	QA Complete	Jan Ag Zero ¹	Total Usable	QA Refusal	QA Inacc	Jan Ag Ref-Inacc	Total Nonusable	Total Allocated
Illinois	145	21	166	8	12	44	64	230
Iowa	165	48	213	7	9	41	57	270
Minnesota	145	44	189	4	17	50	71	260
Nebraska	109	49	158	13	29	70	112	270
S. Dakota	127	20	147	4	46	23	73	220
Total	691	182	873	36	113	228	377	1250

¹Includes reports of zero total cattle and out-of-business on the parent January Ag survey.

Source of tables: Hood, 1993.

APPENDIX F

COMBINING COF STRATA

	S. DAK.	NEBR.	MINN.	IOWA	ILL.
SM 1-499	7. 1-99	5. 1-49	7. 1-99	13. 1-49	6. 1-99
	14. 100-199	14. 100-199	14. 100-199	14. 50-99	15. 100-199
	15. 200-499	15. 200-499	15. 200-499	21. 100-199 23. 200-499	16. 200-499
MD 500-999	19. 500-999	18. 500-999	21. 500-999	25. 500-999	18. 500-999
LG 1000+	---	21. 1000-1499 25. 1500-3999	---	---	---

COMBINING CATTLE STRATA

	S. DAK.	NEBR.	MINN.	IOWA	ILL.
SM 1-499	3. 100-199	7. 100-199 8. 200-499	3. 1-49 4. 50-99 6. 100-249 8. 250-499 9. 50-99 Dairy	3. 1-49 4. 50-99 6. 100-199 7. 200-299 8. 300-499	2. 1-49 3. 50-99 5. 100-199 7. 200-499
MD 500-999	18. 500-999	17. 500-999	20. 500-999	19. 500-999	17. 500-999
LG 1000+	---	20. 1000-2499	---	27. 1000-2999	---

APPENDIX G

EXAMPLES OF WORDING DIFFERENCES BETWEEN THE JANUARY AGRICULTURAL SURVEY AND THE QUALITY ASSESSMENT

JAS SECTION 4 - CATTLE ON FEED

- 1. We need to know about the cattle and calves on feed for the slaughter market. Their ration would include grain, silage, hay or protein supplement.

(INCLUDE cattle being fed by you for others.
EXCLUDE any of your cattle being custom fed in feedlots operated by others and cattle being "backgrounded only" for sale as feeders, for later placement on feed in another feedlot or to be returned to pasture.)

How many cattle and calves were on feed January 1 that will be shipped directly from your feedlot to slaughter market?..... NUMBER ON FEED JAN 1 _____

QA SECTION 4 - CATTLE AND CALVES ON FEED

Now I would like to discuss Cattle and Calves on Feed for the slaughter market.

- 1. How many cattle and calves were on feed January 1 that will go DIRECTLY from this operation to the slaughter market?...NUMBER ON FEED JANUARY 1 _____

JAS SECTION 4 - CATTLE ON FEED

- 7. What is the total capacity of your feedlot(s)?..... HEAD _____

QA SECTION 4 - CATTLE AND CALVES ON FEED

- 6. What is the maximum number of cattle and calves you normally feed for the slaughter market at any one time on the [Section 2, Item 1] acres?..... HEAD _____

JAS SECTION 3 - CATTLE AND CALVES

Of the total cattle and calves on hand January 1, how many were:

- 2. beef cows including heifers that had calved?
- 7. heifer, steer and bull calves weighing less than 500 pounds, including newborn calves?

QA SECTION 3 - CATTLE AND CALVES

- 1. Of the total cattle and calves, regardless of ownership, on the [Section 2, Item 1] acres operated January 1, how many were:
 - a. beef cows?
 - f. calves weighing less than 500 pounds, including newborn calves?.....

APPENDIX H: January 1993 Agricultural Survey Questionnaire



U.S. Dept. of Agriculture
Rm 5809
Washington, D.C. 20250
202-720-7017

AGRICULTURAL SURVEY JANUARY 1, 1993

Form Approved
O.M.B. Number 0535-0213
Approval Expires 1/31/96
Project Code 150

KS, NE

Optional	Optional
407	408

Dear Reporter:

Information requested in this survey is used to prepare agricultural estimates. Facts about your farm or ranch are confidential and used only in combination with similar reports from other producers. Response is voluntary

Sincerely,

Rich Allen

Richard D. Allen, Chairperson
Agricultural Statistics Board

Strata	ID	Tract	Subtr

Office Use		
Date	Time	Notes

SECTION 1 - IDENTIFICATION

Please verify name and address of this operation. Make corrections on label.

1. On land operated by the farm, ranch or individual(s) listed on the label:

- a. Were any cattle or calves on this operation January 1, 1993, or at any time during 1992? YES NO
 (1) Were any cattle or calves being fed for slaughter market on this operation January 1, 1993 or at any time during 1992? YES NO
- b. Were any sheep or lambs on this operation January 1, 1993, or at any time during 1992? YES NO
 (1) Were any sheep or lambs being fed or pastured for slaughter market on this operation January 1, 1993 or at any time during 1992? YES NO
- c. Were any hogs or other livestock on this operation January 1, 1993, or at any time during 1992? YES NO
- d. Have or will crops (including fruit, vegetables, nursery products, etc.) be grown or hay cut at any time during 1993, OR is any of the land in this operation in government programs? YES NO
- e. Have or will grains, oilseeds, or hay be stored at any time during 1993, OR do you have storage facilities used for storing grain? YES NO

If NO to all questions, go to Section 11 on back page

2. Does this operation do business under any name, other than as shown on label?

- YES - Enter name: _____
 NO Do you want this name to appear on the label? YES NO

3. Are the day-to-day decisions for this farming (or ranching) operation made by:

- An Individual Operator?
 Partners? Enter number of partners, including self _____
(Partners jointly operate land and share in decision making DO NOT include landlords as partners)
 A Hired Manager?

a. Are the decisions still made by the same person(s) making them on June 1, 1992?

- YES NO - Please explain what changed

Office Use
R Unit
921
Change
923
Substitution
941

SECTION 3 - CATTLE AND CALVES

1. On January 1, were there any cattle or calves, regardless of ownership, on the [Page 3, Item 1] acres operated?
 (Include cattle and calves owned or managed on land administered or controlled by a public agency, industrial corporation, or grazing association on a fee per head or AUM basis)

YES

NO

a. Were there any cattle or calves on these acres at any time during 1992?

YES

NO - [Enter 3 in Code Box 498 then go to Page 5, item 8]

Of the total cattle and calves on hand January 1, how many were:

2. beef cows including heifers that had calved? + 351

3. milk cows, whether dry or in milk, including milk heifers that had calved? + 352
 [If no milk cows, go to Item 4]

a. cows milked on January 1? 349

b. milk produced that day? Lbs 501 or Gals 502

4. bulls weighing 500 lbs or more? + 353

5. heifers that had not calved, weighing 500 lbs or more:

a. for beef cow replacement? + 354

b. for milk cow replacement? + 355

c. other heifers 500 lbs or more? + 356

6. steers weighing 500 lbs or more? + 357

7. heifer, steer and bull calves weighing less than 500 pounds, including newborn calves? + 358

8. [Add Items 2 through 7] Then the total cattle and calves on hand January 1 was: = 350

Is that correct? [If not, make corrections, then go to top of next column]

(For items 10-12 include births and deaths of cattle and calves on Public, Industrial, or Grazing Association land)

CALF CROP

10. Of the total calves born during 1992, including dairy and beef, how many: (Exclude calves purchased)

a. were still on hand January 1, 1993? + 363

b. had been sold, moved off total acres operated or slaughtered by January 1? + 364

c. had died by January 1? (Exclude calves born dead) + 365

11. Total calves born during 1992 was: [Add Items 10a + 10b + 10c] = 366

a. Of these (Item 11) calves, how many were born in the 6-month period, July 1 through December 31, 1992? 361

DEATHS

12a. How many cattle weighing 500 lbs. or more died or were lost from all causes during 1992? 367

12b. How many calves weighing less than 500 lbs died or were lost from all causes during 1992? 368

BUTCHERED

13. How many cattle and calves were butchered during 1992: (Exclude animals sold alive)

a. on the total acres operated? 187

b. for you at a custom butcher, locker, or slaughter plant? 188

INVENTORY VALUE

14. What is the average value per head of the (report to nearest dollar)

a. beef cows? \$ 190

b. bulls weighing 500 lbs. or more? \$ 191

c. heifers kept for beef cow replacement? \$ 192

d. other heifers and steers weighing 500 lbs or more? \$ 193

e. heifer, steer and bull calves weighing less than 500 lbs? \$ 194

1 - Incomplete, has cattle	498
2 - Incomplete, cattle presence unknown	
3 - Valid zero	

SECTION 4 - CATTLE ON FEED

1. We need to know about the cattle and calves on feed for the slaughter market. Their ration would include grain, silage, hay or protein supplement.

(INCLUDE cattle being fed by you for others. EXCLUDE any of your cattle being custom fed in feedlots operated by others and cattle being "backgrounded only" for sale as feeders, for later placement on feed in another feedlot or to be returned to pasture.)

How many cattle and calves were on feed January 1 that will be shipped directly from your feedlot to slaughter market? Number on Feed Jan 1

652

2. During December 1992, how many cattle and calves were:
- a. placed on feed in your feedlot(s)?

653

- b. marketed for slaughter? [shipped out of your feedlot(s)]

654

3. Of the other disappearance of cattle from your feedlot(s) during December 1992, how many:
- a. were shipped to someone else's feedlot(s)?

655

- b. were returned to grazing?

656

- c. died?

657

[IF NUMBER ON FEED ON JANUARY 1 (Item 1) EQUALS ZERO SKIP TO ITEM 7]

4. Of the [Item 1] cattle and calves on feed, how many do you expect to ship to slaughter market during:
- a. January, February, and March of 1993?

658

- b. after March 31, 1993?

659

[Complete Items 5 and 5a for steers, then repeat for heifers]

5. Of the [Item 1] cattle and calves on feed, how many were: steers and steer calves (heifer and heifer calves)?
- | | Steers | Heifers |
|-----|--------|---------|
| 660 | | 666 |
| 661 | | 667 |
| 662 | | 668 |
| 663 | | 669 |
| 664 | | 670 |
| 665 | | 671 |
- a. How many of these steers (heifers) weighed:
- (1) under 500 pounds?

661

- (2) from 500 to 699 pounds?

662

- (3) . . . 700 to 899 pounds?

663

- (4) . . . 900 to 1099 pounds?

664

- (5) 1100 pounds and over?

665

[Repeat Items 5 and 5a for heifers if necessary]

6. Of the [Item 1] cattle and calves on feed, how many were cows and bulls?

678

7. What is the total capacity of your feedlot(s)? Head

676

[If cattle or calves on feed reported in Item 1, go to Page 6]

8. Will any cattle or calves be fed on this operation for the slaughter market at any time during 1993?

- YES = 1
- DON'T KNOW = 2
- NO = 3

) ----->

651

1 - Incomplete, has Cattle on Feed	677
2 - Incomplete, COF presence unknown	
3 - Valid zero	

APPENDIX I: January 1993 Quality Assessment Questionnaire



**NATIONAL
AGRICULTURAL
STATISTICS
SERVICE**

U.S. Department
of Agriculture

Washington, D.C.
20250

AGRICULTURAL SURVEY January 1993

Form Approved
O.M.B. Number 0535-0213
Approval Expires 1/31/96
Project Code 502

COF Survey Quality Assessment

Optional	Optional
407	408

Office Use	
999	1

Strata	ID	Tract	Subtr

Office Use		
Date	Time	Notes

INTRODUCTION

Hello, I am _____ with the (State) Agricultural Statistics Service. One of our interviewers contacted this household recently to obtain information for our January Agricultural Survey. We are reinterviewing a few of the people in the original survey, asking a few of the questions from that survey and a few different questions in order to evaluate the quality of our survey procedures. I would like to speak with the person most knowledgeable about this cattle operation. I would appreciate it if you would take the time to help me.

SECTION 1 - IDENTIFICATION

Office Use
998

Please verify name and address of this operation. Make corrections on label.

1. On the land operated by the farm, ranch or individual(s) listed on the label
- a. were any cattle or calves on this operation January 1, 1993? YES NO →

[If NO go to Section 7 on last page]

2. Does this operation do business under any name, other than as shown on label?

YES - Enter name. _____

NO (Do you want this name to appear on the label?) YES NO

3. Are the day-to-day decisions for this farming (or ranching) operation made by:

An Individual Operator?

Partners? Enter number of partners, including self _____
(Partners jointly operate land and share in decision making
DO NOT include landlord as partner.)

A Hired Manager?

Office Use
R. Unit
921
Change
923
Substitution
941

- 3a. Are the decisions still made by the same person(s) making them on June 1, 1992?

YES NO - Would you please explain what changed?

1. How many total acres of land were in this operation on January 1? 900
- Include: The farmstead, all cropland, woodland, pastureland, wasteland, and government program land that is owned, rented from others, or managed.
- Exclude: Land rented to others and public, industrial, or grazing association land used on a fee per head or AUM basis.

SECTION 3 - CATTLE AND CALVES

1. Of the total cattle and calves, regardless of ownership, on the [Section 2, Item 1] acres operated January 1, how many were:
- a. beef cows? ★ 351
 - b. milk cows, whether dry or in milk? ★ 352
 - c. bulls weighing 500 lbs. or more? ★ 353
 - d. heifers, weighing 500 lbs. or more including replacement heifers and other heifers that had not calved? ★ 359
 - e. steers weighing 500 lbs. or more? ★ 357
 - f. calves weighing less than 500 pounds, including newborn calves? ★ 358
2. [Add ★ Items 1a through 1f] 350
Then the total cattle and calves on hand January 1 was:
3. Were there any other cattle or calves on this operation January 1, that we have not already counted (in item 1 above), even if they belonged to someone else? 860
- YES - [Enter code 1, show corrections to include them in item 1 above and explain.] NO - [Enter code 3 and continue.]

4. I have already asked about calves less than 500 pounds.
Were there any calves on this operation over 500 pounds?
- YES → 4a. How many? 870
- 4b. What was their average weight? pounds 871
- 4c. Did you include them earlier in the item 1 categories above (beef cows, milk cows, bulls, heifers, steers and calves under 500 pounds)? 872
[YES, Code 1 and explain; NO, Code 3]
- _____
- _____

NO

Now I would like to discuss Cattle and Calves on Feed for the slaughter market

1. How many cattle and calves were on feed January 1 that will go DIRECTLY from this operation to the slaughter market? Number on feed January 1

2. Do you (this operation) have any cattle or calves that will go to another feed lot, be returned to pasture or go somewhere else before going to the slaughter market?
 NO YES - 2a. How many? Number

3. Have we missed any cattle or calves that you feel should be included as Cattle on Feed?
 NO YES - 3a. How many? Number
 3b. Why were they not included?

4. Are there any CALVES less than 500 pounds on this operation that are being fed some grain, silage or protein concentrate?
 NO YES

↓

4a. Will any of these calves be finished on this operation for the slaughter market?
 YES - 4a1 How many?
 4a2 Did you count them in the [Item 1] cattle on feed?
 [YES = Code 1; No = Code 3]
 NO - [Go to question 4b.]

4b. Will any of them be moved to another feedlot, returned to pasture, or sold as feeders?
 YES - 4b1 How many?
 4b2 Did you count them in the [Item 1] cattle on feed?
 [YES = Code 1; No = 3]
 NO - [Go to question 5]

↓

5. Sometimes the decision to finish calves for the slaughter market yourself or sell them as feeders has not been made at the time of our survey. If you (this operation) had some calves on feed but had not yet made a decision about them, would you INCLUDE or EXCLUDE them in the number of Cattle and Calves on Feed for the slaughter market? [Include = Code 1, Don't Know = 2, Exclude = Code 3]

6. What is the maximum number of cattle and calves you normally feed for the slaughter market at any one time on the [Section 2, Item 1] acres? Head

1. Now I would like to discuss what some terms or words mean to you. Many times, terms mean different things to people living in different areas. This information will help us obtain the exact information that we are interested in. Please look at this card *[hand card to respondent]* and tell me in your own words what each term means to you. If you are not familiar with a term, let me know and go on to the next one.

a. cattle and calves on feed:

b. backgrounding:

c. calves (calf):

[Enumerator Note:

If necessary probe with, "To you, are calves a certain weight, age, size, or something else?"]

2. *[Enumerator Note: Did the respondent use any written records for this survey?]*

- YES = 1
- NO = 3



3. Did the respondent on the first survey use written records when providing information to the interviewer?

- YES = 1
- DON'T KNOW = 2
- NO = 3



[If Code 2 or 3 go to Section 6, Page 5]

3a. Were these written records from the operation's books, or from another source?

- Operation's books = 1
- Other Source = 2

Identify _____



SECTION 6 - PARTNER NAMES

1. Did you check **partners** in Section 1, Item 3, on Page 1?

YES - [Continue] NO - [Go to Section 8 on the back page]

2. Please identify the other person(s) in this partnership, then go to Section 8 on the back page.
(Make necessary corrections if names have already been entered)

Name: _____ Phone: _____ <small>(First) (Middle) (Last)</small>
Address: _____ <small>(Rt. or St.) (City) (State) (Zip)</small>
Did this person operate land individually in this State on June 1, 1992? <input type="checkbox"/> YES <input type="checkbox"/> NO
Name: _____ Phone: _____ <small>(First) (Middle) (Last)</small>
Address: _____ <small>(Rt. or St.) (City) (State) (Zip)</small>
Did this person operate land individually in this State on June 1, 1992? <input type="checkbox"/> YES <input type="checkbox"/> NO
Name: _____ Phone: _____ <small>(First) (Middle) (Last)</small>
Address: _____ <small>(Rt. or St.) (City) (State) (Zip)</small>
Did this person operate land individually in this State on June 1, 1992? <input type="checkbox"/> YES <input type="checkbox"/> NO
Name: _____ Phone: _____ <small>(First) (Middle) (Last)</small>
Address: _____ <small>(Rt. or St.) (City) (State) (Zip)</small>
Did this person operate land individually in this State on June 1, 1992? <input type="checkbox"/> YES <input type="checkbox"/> NO

925
924

926
924

927
924

928
924

[Go to Section 8 on the back page]

1. Has this operation (name on label) been sold, or turned over to someone else?

NO - [Go to next Section] YES - Please identify the new operator(s).

Name _____

Address _____ Phone _____

City _____ State _____ Zip _____

1a. Did this person operate land individually in this State on June 1, 1992? YES NO

SECTION 8 - CONCLUSION

1. Do you make any day-to-day decisions for another farm or ranch?

NO YES - 1a. What is the name of this operation? _____

1b. Was this operation in business before June 1, 1992? YES NO

2. Thank you for your help in completing this questionnaire. Now I would like to compare these responses with those from the original interview.

GO TO RECONCILIATION FORM.

3. Do you have any comments or suggestions about this or any of our other surveys that would make it easier for you to report?

This completes the survey. Thanks for your help.

Reported by: _____ Date: _____

Telephone (area code): _____ (number): _____

Respondent		Response Code		Enum.	Eval.	Jul Date
1-Op	101	3-Int	910	098	100	987
2-Sp		8-IR				
3-Oth		9-Inac				
Enumerator						

Public reporting burden for this survey averages 15 minutes per response. This includes time for reviewing instructions, gathering the data, and completing the questionnaire. Send comments about this burden estimate or any other aspect of this survey, including suggestions for reducing the burden, to the Office of Management and Budget, Paperwork Reduction Project (0535-0213), Washington, D.C. 20503. Please do not mail questionnaire to this address.

RECONCILIATION FORM

CATTLE ON FEED
SURVEY QUALITY ASSESSMENT
JANUARY 1993

THIS FORM IS NOT TO BE OPENED UNTIL AFTER THE REINTERVIEW RESPONSES HAVE BEEN OBTAINED. In order to obtain measures of quality of our data, we must maintain independence between the initial and reinterview surveys. Viewing the initial response before the reinterview may damage this relationship.

Stratum	ID	Tract	Subtract	County

LABEL

--

Respondent Combination
Office Use 950

Initial Respondent:

Initial Int:

QUESTION	ORIGINAL RESPONSE (1)	REINTERVIEW RESPONSE (2)	WHICH IS CORRECT? ----- 1=orig 2=reint 3=either (3)	REASON FOR DIFFERENCE (Explain in detail below) (4)
SECTION 1 --- IDENTIFICATION				Office Use
1. Label Correct? (yes/no)	310	410	510	810
Corrections to Label:		411 Office Use	511	811
2. Any cattle or calves on this operation January 1, 1993? (yes/no)	312	412	512	812
3. Does operation do business under any other name? (yes/no)	313	413	513	813
Name:			514	814
4. Day-to-day decisions made by: 1=indiv. oper 2-5=partners 8=hired manager	315	415	515	815
4a. Are decisions made by the same person(s) making them on June 1, 1992? (yes/no)	316	416	516	816
SECTION 2 --- ACRES OPERATED				
1. How many total acres of land in this operation on Jan. 1?	317	417	517	817

EXPLANATION		
(Explain as fully as possible why the original and reinterview differ)		
Section	Item	Reason for difference

Initial Respondent:

Initial Int:

QUESTION	ORIGINAL RESPONSE (1)	REINTERVIEW RESPONSE (2)	WHICH IS CORRECT? ----- 1=orig 2=reint 3=either (3)	REASON FOR DIFFERENCE (Explain in detail below) (4)
SECTION 3 --- CATTLE AND CALVES				Office Use
1. Of the total cattle and calves , regardless of ownership, on the total acres operated January 1 , how many were:				
a. Beef Cows	318	418	518	
b. Milk Cows	319	419	519	
c. Bulls weighing 500 lbs. or more	320	420	520	
d. Heifers, weighing 500 lbs. or more that had not calved	321	421	521	
e. Steers weighing 500 lbs. or more	322	422	522	
f. Calves weighing less than 500 lbs, including newborn calves	323	423	523	
2. Total cattle and calves on hand January 1 was:	324	424	524	824
SECTION 4 --- CATTLE AND CALVES ON FEED				
1. Total cattle and calves on feed Jan 1 that will go DIRECTLY from this operation to the slaughter market?	325	425	525	825
2. Maximum number of cattle and calves you normally feed for the slaughter market at any one time?	326	426	526	826

EXPLANATION		
(Explain as fully as possible why the original and reinterview differ)		
Section	Item	Reason for difference

IF NO FURTHER EXPLANATIONS, RETURN TO REINTERVIEW FORM - SECTION 8 QUESTION #3

EXPLANATION

(Explain as fully as possible why the original and reinterview differ)

Section	Item	Reason for difference

What else are the respondents saying?

- from Minnesota -- Give the farmer a list of the definition of terms.
- from South Dakota -- "Make clear definitions of what cattle and calves are."
- from Nebraska -- "Catch me on a rainy day."
- from Illinois -- "Need to use a higher weight for calves - 650 as a minimum."
- from Iowa -- Respondent feels that survey results are used by the Board of Trade to hurt farmer's income.
- from Nebraska -- "Put a question on about backgrounding so the farmer can make the difference."
- from Minnesota -- "Maybe weight on calves should be raised - calves grow faster now."
- from Iowa -- "Need a statement separating cattle on feed and those being backgrounded."
- from Nebraska -- "I have been filling out (surveys) for years and feel it is fairly simple."
- from Illinois -- "Questions mean different things to different people."
- from Illinois -- "I implant them, dehorn, castrate, treat for lice and worms. That's what I call backgrounding."
- from South Dakota -- "You need a place on the form to record the calves from 500 pounds on up."
- from Illinois -- "You don't put calves on feed for slaughter, just animals above 400+ to finish and send to slaughter."
- from Illinois -- "They could ask the question about heifers so that we understand what they determine a heifer to be."
- from Iowa -- Likes presurvey letters; would prefer to fill out the forms himself than be called on the phone.
- from Nebraska -- "This is a good idea to get calf terminology nailed down."
- from Iowa -- Respondent understands that differences in term meanings could cause differences in numbers.
- from Iowa -- "I prefer to do these in person for more accuracy and to make sure it's legitimate."
- from Nebraska -- "We know you're only trying to do your best, but we're busy too."
- from Iowa -- "Good job by whoever called."

- from Iowa -- "Government agencies should share data so the farmer wouldn't be contacted so often."
- from Minnesota -- "Personal interviews are easier to do."
- from Minnesota -- "You people love to ask questions, don't you?"
- from South Dakota -- "It would be better if we had our records when they called."
- from Nebraska -- "It's easier to give accurate information in person when I can see the questions than over the phone."
- from South Dakota -- "Make questions simpler so we can understand them better." "Then with tongue in cheek, he grinned and said, 'It'd be easier if they didn't ask us any questions.'"
- from South Dakota -- "When will we be seein' you again?"

What are the field enumerators saying?

- from Nebraska -- "He felt the (QA) report was easy to do."
- from Nebraska -- "Spouse had many comments as we did interview."
- from Nebraska -- "He told Mary that what he had told Janet was absolutely correct."
- from Nebraska -- "Operator said he might be in trouble when I told him I'd be asking some of the same questions he was asked on the telephone interview as he said he gave quick answers on phone."
- [Note: Total cattle and calves changed from 86 on the initial interview to 69 on the QA interview. The reconciled value = the QA response.]
- from Illinois -- "[The reconciliation] was easy to follow and do. The farmer [was] eager to help with the difference in answers."
- from Illinois -- "I had all good people and they were interested in what we were trying to do. I enjoyed doing it."
- from Illinois -- "In my opinion the terms cattle and calves on feed and the term calf should both be eliminated from questions concerning feedlot numbers. The terms may mean 10 different things to 10 different cattle feeders."
- from Illinois -- "I did six interviews and each reaction was different. Some positive, some neutral and others negative, so I couldn't generalize. Although, I believe the reactions I got would have been the same for any survey, that is they didn't respond any differently just because it was a reinterview."
- from South Dakota -- "It went better than I thought it would and I didn't have [any] problems except on 2 where the computer goofed up and the guys didn't know where the answers came from."
- from South Dakota -- "Most respondents were open to this and had a good feeling that we were trying to improve things for them."
- from South Dakota -- "The date of the original interview is very important. I found that some people gave the information to the 1st enumerator for the date being interviewed, not Jan 1."
- from South Dakota -- "Lap top computers for enumerators would cost more but would be more effective."
- from South Dakota -- "Reinterview samples should be drawn from personal interviews only. I feel it's more important for the original interview to be done in person than the reinterview."
- from South Dakota -- "There are mixed interpretations of cattle on feed and what is a calf."
- from Nebraska -- "I think we left the impression with the operators that we are truly serious about updating and fine tuning our data collection procedures."

- from Nebraska -- "Caught a couple that had listed COF but had missed the word directly to slaughter market but question #2 on reinterview caught it. They were actually backgrounding."
- from Nebraska -- "I had no problems as I told them we were doing a special research project checking our systems to give them the best possible statistics."
- from Nebraska -- "I feel the reinterviews are a valuable tool in giving the respondent more awareness of the importance of the date, acres and livestock (regardless of ownership) that should be reported on first interview."
- from Minnesota -- "The only problem I see is that farmers don't hear the questions as they are written."
- from Minnesota -- "The reconciliation interviews run very smoothly. They are pretty easy and fun to do. The farmers are cooperative because they have already done the first part of the survey."
- from Minnesota -- "Most farmers I had were very negative period --they are very depressed about everything, markets, etc., corn prices, farm program, etc., etc."
- from Minnesota -- "Could reinterview surveys be done in the summer when we don't lose days because of blizzards?"
- from Iowa -- "This form was much better than ones in the past when you more or less said who made the mistake in getting the information."
- from Iowa -- "The farmers seemed pleased that we were asking their ideas and that we were doing our best to be accurate."
- from Iowa -- "I feel that the good response I got was a blessing as they were all busy hauling corn, getting in and selling cattle, etc. Farmers are one of a kind!!!!"
- from Iowa -- "Farmers thought it was a very good step to get standard definitions and to review questions."