



# Mink Methodology and Quality Measures

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## Annual Mink Survey Methodology

**Scope and Purpose:** A Mink Survey is conducted annually which includes all States with known mink operations. Data are collected on the number of pelts produced, females bred and the components of the totals by color class. In addition, the number of mink farms or ranches is captured. Marketing data for the price per pelt and the value of mink production are collected from auction houses and incorporated as part of the publication.

Data collected on the number of pelts produced and females bred by color class are published for 13 States. The publication contains estimates for the other 37 States, which are combined into an “Other States” category. After each Census of Agriculture, which is an exhaustive data collection effort for all known agricultural operations across the United States, the list of published States is evaluated and modified to include the largest mink producing States.

**Survey Timeline:** Data are collected for the previous year’s production beginning in early May with a survey mailing. A telephone follow-up is conducted for non-response records approximately two weeks after the mailing. Data Collection Centers collect data for a period of approximately one week. The Estimation Centers complete analysis, summarization, and submission of estimates over approximately a two-week period ending in early June. Following analysis and summarization, the Estimation Centers submit State level estimates. Over the next three weeks a national review is completed and national estimates are established. Estimates are released to the public at 3:00 p.m. ET in early July on the date designated by the Agricultural Statistics Board on its annual publications calendar.

**Sampling:** The target population for the Mink Survey is all agricultural establishments with one or more bred mink females on the land operated. This survey is a complete census of the records on the National Agricultural Statistics Service (NASS) List Frame with positively reported mink data from a past survey. The List Frame is a current and unduplicated list of agricultural operations, and all current mink operations are assumed to be on the list. If a new mink operation is found at any time, the operation is added to the List Frame. Since this is a census of mink operations, no sample weights exist. Each respondent operation accounts only for itself. The NASS area frame, which is a sampling frame of all land area, is not constructed nor sampled to identify mink operations, so there is no area frame component to the annual Mink Survey.

**Data Collection:** All mink farms and ranches receive a pre-survey letter explaining the Mink Survey and that operations will be contacted for survey purposes only. A questionnaire is enclosed with the letter for the respondent to complete and return by mail. The questionnaire also provides a pass code that can be used to complete the survey securely online. If response is not received by mail or the Internet, respondents are contacted by phone for the survey data. Most of the data are collected by Computer-Assisted Telephone Interviews (CATI) at Data Collection Centers. Personal interviews are limited to large operations or those with special handling arrangements.

**Survey Edit:** As survey data are collected and captured, data are edited for consistency and reasonableness using automated systems. Reported data are edited as a batch of data when first captured. The edit logic ensures administrative coding follows the methodological rules associated with the survey design. Relationships between data items (i.e. responses to individual questions) on the current survey are verified. Some data items in the current survey are compared to data items from earlier surveys to ensure certain relationships are logical. The edit will determine the status of each record to be either “dirty” or “clean” (i.e. failing or passing the edit requirements for consistency and reasonableness). Records that fail edit requirements must be updated or certified by an analyst to be exempt from the failed edit requirement. Only records that pass edit requirements are eligible for final summary.

**Analysis Tools:** Edited mink data are processed through an interactive analysis tool which displays data for all reports by item. The tool provides scatter plots, tables, charts, and special tabulations that allow the analyst to compare an individual record to similar records. Atypical responses and unusual data relationships become evident and Estimation Center staff review them to determine if they are correct. The tool allows comparison to an agricultural operation's previously reported data to detect large changes in the operation. Data found to be in error are corrected, while accepted data are retained.

**Nonsampling Errors:** Nonsampling errors are present in any survey process. These errors include reporting, recording, and editing errors. Steps are taken to minimize these errors, such as comprehensive interviewer training, validation, and verification of processing systems, application of detailed computer edits, and evaluation of the data via the analysis tools.

**Estimators:** The Mink Survey is a complete enumeration of all known mink operations. Mink operations are selected from the list of all agricultural operations, and new operations are added into the sample when discovered. No coverage adjustment is made. Response to the Mink Survey is voluntary. Producers may refuse to participate in the survey, may not be located during the data collection period or may submit incomplete reports. The non-response data items and sampling units are manually imputed by Estimation Center statisticians. The weights for current items are not adjusted.

Since manual imputation is conducted for all non-response units and items, point estimates are an accounting of all responses and manual imputations. The measurement of error due to sampling in the current survey period is irrelevant for a fully enumerated census. Moreover, standard errors and coefficients of variation (CVs) are zero for all current data items collected.

**Estimation:** When all samples are accounted for, all responses fully edited and the analysis material is reviewed, each assigned Field Office executes a summary to evaluate and analyze the data for which it is accountable. Since Data Collection Centers conduct identical surveys for each State, the samples can be pooled and national survey results computed. The summary results provide multiple point estimates and information used to evaluate the quality of the survey estimates, such as response rates.

Assigned Field Offices are responsible for performing a detailed review of their survey results. Any irregularities revealed by the summary must be investigated and, if necessary, resolved. Using the historical survey estimates, assigned Field Offices must validate the survey results and submit to NASS headquarters in Washington, DC a data series for the program. The data are viewed in tabular and graphical form.

For the national estimates, NASS assembles a panel of statisticians to serve on the Agricultural Statistics Board (ASB). The same estimators used in the State summaries are produced by the national summary. The ASB reviews the national results and establishes the national estimates. State totals sum to the national level.

## Quality Metrics for Mink

**Purpose and Definitions:** Under the guidance of the Statistical Policy Office of the Office of Management and Budget (OMB), the United States Department of Agriculture’s National Agricultural Statistics Service (NASS) provides data users with quality metrics for its published data series. The metrics tables below describe the performance data for all surveys contributing to the publication. The accuracy of data products may be evaluated through sampling and non-sampling error. The measurement of error due to sampling in the current period is irrelevant for a fully enumerated data series. Non-sampling error is evaluated by response rates and the percent of the estimate from reported data.

**Sample size** is the number of observations selected from the population to represent a characteristic of the population.

**Response rates** using base weights measure the proportion of the sample frame that is represented by the responding units in each study.

**Percent of estimate from reported data** is the value of a characteristic from respondent reports divided by the value of a characteristic from respondent reports plus manually imputed reports expressed as a percent.

**Mink Survey Sample Size and Response Rates:** To assist in evaluating the performance of the estimates in the mink report, the sample size and response rates are displayed. The sample size for all mink operations in 2011 is smaller than 2010 due to businesses known to have no bred females. Response rates overall for 2010 and 2011 are displayed.

### Mink Survey Sample Size and Response Rates – United States: 2010 and 2011

	2010		2011	
	Sample size	Response rate	Sample size	Response rate
	(number)	(percent)	(number)	(percent)
United States .....	419	90.9	290	90.0

**Mink Survey Percent of Estimate from Reported Data:** To assist in evaluating the performance of the estimates in the mink report, the percent of the estimate from reported data is displayed nationally by color class and for 13 States and all Other States and nationally for pelts produced (2009 and 2010) and females bred (2010 and 2011).

### Quality Metrics for Mink Pelts Produced and Females Bred by Color Class – United States: 2009-2011

Color class	Percent of estimate from reported data			
	Pelts produced		Females bred to produce kits	
	2009	2010	2010	2011
	(percent)	(percent)	(percent)	(percent)
Black .....	96.0	90.5	95.3	92.0
Demi/Wild .....	95.9	98.6	95.4	97.6
Pastel .....	99.9	99.9	99.9	99.9
Sapphire .....	89.2	88.3	88.2	88.6
Blue Iris .....	96.8	94.8	96.5	94.3
Mahogany .....	98.4	93.8	98.2	95.0
Pearl .....	100.0	93.8	100.0	94.1
Lavender .....	99.8	84.5	99.9	78.8
Violet .....	99.9	95.9	99.9	91.2
White .....	97.7	95.6	97.6	95.4
Other .....	99.1	94.6	99.6	79.0
Total .....	96.6	92.4	96.0	93.3

**Quality Metrics for Mink Pelts Produced and Females Bred – Selected States and United States: 2009-2011**

States	Percent of estimate from reported data			
	Pelts produced		Females bred to produce kits	
	2009	2010	2010	2011
	(percent)	(percent)	(percent)	(percent)
Idaho .....	95.9	98.6	95.1	98.6
Illinois .....	100.0	100.0	100.0	100.0
Iowa .....	99.1	73.7	98.9	73.5
Michigan .....	99.9	99.9	99.9	99.9
Minnesota .....	100.0	100.0	100.0	100.0
Montana .....	100.0	90.8	100.0	85.8
Ohio .....	99.8	100.0	99.8	100.0
Oregon .....	93.2	95.4	91.6	95.4
Pennsylvania .....	100.0	96.1	100.0	95.1
South Dakota .....	100.0	100.0	100.0	100.0
Utah .....	95.4	95.7	95.8	95.5
Washington .....	100.0	100.0	100.0	100.0
Wisconsin .....	95.6	84.7	94.4	87.7
Other States .....	98.0	95.9	98.4	98.0
United States .....	96.6	92.4	96.0	93.3

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