2022

Integrated Screening Survey (ISS)

ARMS Phase 1

Interviewer’s Manual
# Table of Contents

1 **General** ................................................................. 101  
1.1 Purpose ................................................................................. 101  
1.2 Data Collection Phases (ARMS) ........................................... 101  
1.3 Uses of ARMS Data ................................................................. 102  
1.4 ARMS Products ....................................................................... 103  
1.5 Field Crop Chemical Use Survey (FCCUS) ............................. 103  
1.6 Vegetable Chemical Use Survey (VCUS) ................................. 103  
1.7 Uses of VCUS Data ................................................................. 104  

2 **Terms and Definitions** .......................................................... 201  
2.1 General .................................................................................. 201  
2.2 Terminology ........................................................................... 201  

3 **Survey Procedures** ............................................................... 301  
3.1 Questionnaire Introduction .................................................... 301  
3.2 Burden Statement .................................................................... 301  

4 **Operation Screening** ............................................................. 401  
4.1 Identifying the Sampled Operation ........................................... 401  
4.1.1 Target Name Rules ............................................................... 401  
4.2 Verify Name and Address Information - Label ....................... 405  
4.3 Screening for Agricultural Activity – Item 1 ............................ 405  
4.3.1 Crops in 2022 .................................................................... 406  
4.3.2 Livestock or Poultry in 2022 .................................................. 406  
4.3.3 Sales of Agricultural Products ............................................. 407  
4.3.4 Government Agricultural Payments ................................. 407  
4.3.5 Idle Cropland and Pastureland ............................................. 407  
4.3.6 Change in Operator – Items 1a and 1b ................................. 407  
4.3.6.1 Operation Turned Over to Someone Else – Item 1a .......... 407  
4.3.6.2 Name & Address of New Operator – Item 1b .................. 408  

5 **Completing the Questionnaire** .................................................. 501  
5.1 General Information ............................................................... 501  
5.2 2022 Total Acres Operated .................................................... 501  
5.2.1 Land Tenure ....................................................................... 501  
5.2.2 Total Acres Operated ........................................................... 502
5.2.3 Cropland Acres.............................................................................................................. 503
5.2.4 Arizona Department of Agriculture (Arizona Only) AZDA-ESD.................... 503
5.3 2022 Crops.......................................................................................................................... 504
  5.3.1 Winter Wheat – Select States ONLY (18)................................................................. 506
  5.3.2 Durum Wheat – Select States ONLY (5)................................................................... 506
  5.3.3 Spring Wheat – Select States ONLY (6)................................................................. 506
  5.3.4 Potatoes – Select States ONLY (9)........................................................................... 506
  5.3.5 Vegetable Crops – Select States ONLY (18)......................................................... 506
5.4 Value of Sales........................................................................................................................ 508
  5.4.1 2021 Gross Value of Sales – Item 1........................................................................ 508
  5.4.2 Farm Type – Item 2.................................................................................................... 509
5.5 Operation Type .................................................................................................................... 509
  5.5.1 Number of Partners – Item 1a ................................................................................. 509
  5.5.2 Partners Name and Address – Item 1b................................................................. 509
5.6 Conclusion ........................................................................................................................... 510
  5.6.1 Operator Involved in Additional Operations......................................................... 510
  5.6.2 Coding Questionnaire Completion Items.............................................................. 511
1 General

1.1 Purpose

The Integrated Screening Survey (ISS) identifies in-business operations, multiple operating arrangements, and operations having targeted commodities. Screening improves the quality of estimates by increasing the number of usable reports in follow-on phases and subsequent phases, as compared to sampling from list frame control data only.

The ISS combines screening for the Agricultural Resource Management Survey (ARMS), the Field Crops Chemical Use Survey (FCCUS) and the Vegetable Chemical Use Survey (VCUS).

The ARMS, FCCUS and VCUS are conducted in support of the USDA Pesticide Data Program (PDP). ARMS is conducted in cooperation with the Economic Research Service (ERS). Since the target populations and target commodities between ARMS, FCCUS and VCUS are unique, it is necessary to discuss individual programs where appropriate.

1.2 Data Collection Phases (ARMS)

Annually, the ARMS collects production practices and cost of production data on selected commodities. The ARMS also collects detailed whole farm financial information from a representative sample of farms and ranches across the country. To accomplish this, the ARMS is conducted in three data collection phases. In many ways, the three phases can be viewed operationally as independent surveys. However, the power of the ARMS design is that the data between phases are related and can be combined and analyzed as described below.

The initial phase (ARMS 1 – ISS), is conducted from May through July. This phase collects general farm data such as crops grown, livestock inventory, and value of sales.

ISS data are used to qualify (or screen) farms for the other two phases. The purpose of ISS is to verify the current business status of operations eligible for Phases 2 and 3.

By knowing in advance which operations are in-business, in-scope, and which ones plan to grow targeted crops, we can improve the quality of the results of ARMS Phases 2 and 3. Having an increased number of completed questionnaires from operations that are in-business and with the commodities of interest improves the quality of our production practices and chemical use estimates.
Respondents from ARMS – Phase 1-ISS that are in business and produce the commodities of interest will be eligible for Phases 2 and 3 sampling.

The second phase (ARMS – Phase 2) is conducted from October through December. This phase collects data associated with agricultural production practices, resource use, and variable costs of production for specific commodities through the Production Practices and Costs Report (PPCR) and/or the Production Practices Report (PPR). The targeted commodity for the PPCR is wheat. The targeted commodity for the PPR is potato. (See Section 1.5).

The final phase (ARMS – Phase 3) is conducted from January through April of the following year. This Phase collects whole farm finance and operator characteristics information. The targeted commodity is wheat.

1.3 Uses of ARMS Data

Farm organizations, commodity groups, agribusiness, Congress, State Departments of Agriculture, and the USDA use information from ARMS to evaluate the financial performance of farm/ranch businesses and to make policy decisions affecting agriculture. Specifically, the ARMS:

- gathers information about relationships among agricultural production, resources, and the environment, to support evaluations of these relationships. The data are used to understand the relevant factors in producing high quality food and fiber products while maintaining the long-term viability of the natural resource base.

- determines production costs of various crop and livestock commodities, and the relative importance of various production expense items.

- estimates net farm income and provides data on the financial situation of farm and ranch businesses, including the amount of debt. ARMS data provide the only National perspective on the annual changes in the financial conditions of production agriculture.

- provides the farm sector portion of the Gross Domestic Product (GDP) for the Nation. While the farm sector portion may be small, its volatility must be accurately measured to identify the sources of change in the overall economy.

- identifies the characteristics and financial situation of agricultural producers and their households, including information on management strategies and off-farm income. ARMS provides the only source of data that link household financial resources and outcomes to farm business finances.
• Provides baseline commodity cost and return estimates that are used to establish annual estimates during the next 4-8 years. Annual estimates are set by updating the survey base using changes in annual prices, acreage, and production.

In general, ARMS data benefits farmers indirectly. They see the information through contact with extension advisors, in reports issued by State colleges and universities, in farm magazines, newspapers, and on radio or TV broadcasts. Most respondents probably do not realize the data come from the ARMS, but they may be affected by the farm policy decisions that are made.

1.4 ARMS Products

Markets cannot operate efficiently without accurate and timely information. As with all USDA reports, everyone from the smallest farmer to the largest agribusiness firm, has free and equal access to the results from this survey. This access to information allows farmers to stay on equal footing with agribusiness firms and others who market agricultural commodities.

New technologies make accessing information easier than ever before. Many farmers now have a computer and may access ARMS reports and data summaries on the Internet. Internet access is also available at many public libraries.

Reports and tables using ARMS data can be downloaded from the following NASS and ERS Web Sites:

The NASS Web Site is: http://www.nass.usda.gov
The ERS Web Site is: http://www.ers.usda.gov

1.5 Field Crop Chemical Use Survey (FCCUS)

The 2022 Field Crop Chemical Use Survey (FCCUS) targeted commodity is potato. The FCCUS data are collected during the ARMS using the Production Practices Report (PPR) – a short version of the ARMS Phase 2 - PPCR questionnaire. The purpose and benefits of the FCCUS are the same as for the Vegetable Chemical Use Survey as explained below.

1.6 Vegetable Chemical Use Survey (VCUS)

This survey was developed to address issues in support of the USDA’s Pesticide Data Program. NASS’s primary objective is to provide data to develop an agricultural chemical use database to address water quality and Food Quality Protection Act (FQPA) issues. Other lead agencies involved are the Agricultural Marketing Service (AMS) and Human Nutrition and Information Service (HNIS). The Environment Protection Agency (EPA) and the Food and Drug Administration (FDA) are also involved, but to a much lesser extent.
NASS collects data to estimate levels of agricultural chemicals used on farms. Additional analysis on farmer behavior and alternative production practices are also important. AMS is responsible for tracking chemical residue levels, which measure consumer chemical contact. NASS will publish agricultural chemical use estimates for the same groups of crops that AMS covers in their residue testing program, plus additional crops of interest. HNIS will publish per capita consumption estimates on the same group of crops which are already covered through an existing HNIS survey program.

1.7 Uses of VCUS Data

There are numerous benefits to reporting on the VCUS, some of which are listed below.

- Growers have an opportunity to relate how they use chemicals responsibly to maintain a safe and abundant food supply.

- The survey results are official USDA estimates and help to establish the facts about chemical use. Accurate data can be used to lessen concern relating to marketing and exports to other countries.

- Accurate and timely information on actual usage can be used in the decision-making process for product registration, re-registration, and product alternatives.
2 Terms and Definitions

2.1 General

Enumerators and Supervisors working on the ARMS – Phase 1-ISS Survey should be familiar with the definitions of the terms listed below. You may also click Terms and definitions for definitions not listed below or by going to http://www.nasda.org and then clicking on ‘NASDA-NASS’ → ‘Personnel Resources’ → ‘References’. If you do not have Internet access, please contact your NASDA Coordinator.

2.2 Terminology

Abnormal (Institutional) Farm – A farm or ranch operated as part of an Indian reservation, religious group, university, government agency, prison, etc.

Acre – Unit of land area commonly used in the U.S.; equals 43,560 square feet.

Agricultural Commodity – Any plant or part of a plant, or animal or part of an animal product, produced by a person primarily for sale, consumption, propagation or other use by humans or animals.

Agricultural Production – The classification of agricultural production includes: establishments (farms, ranches, dairies, orchards, nurseries, greenhouses, etc.) primarily engaged in the production of crops, plants, vines, or trees (excluding forestry operations) and the keeping, grazing or feeding of livestock or livestock products for sale. Livestock include cattle, sheep, goats, hogs, and poultry. Also included are animal specialties such as horses, rabbits, bees, fur-bearing animals and fish in captivity. The classification includes establishments engaged in the production of bulbs, flower seeds, vegetable seeds, and also specialty operations such as sod farms, mushroom cellars, and cranberry bogs.

Broiler – A young domestic breed chicken grown for meat purposes only.

Call Back – A situation where a respondent has been contacted and for a variety of reasons must be re-contacted.

Cash Rent – Fixed, predetermined dollar amount paid for the use of land, buildings, equipment, livestock, etc.

Commodity – Any agricultural or agricultural by-product available for sale.

Confidentiality – The assurance from NASS to survey respondents, backed by Federal law that individual information collected on authorized USDA surveys will not be
released to any person, organization or institution, including court subpoenas. See NASDA Employee Handbook for regulation.

**Contract Production** – Producing crops or livestock under an agreement where the owner of the commodity (contractor) supplies some or most of the inputs for production and the farmer (contractee) usually provide inputs such as labor, utilities, housing, machinery, and/or equipment. The contractee is limited in the control over the amount produced and the production practices used. Usually, the contract is established at the beginning of the production cycle for a given number of acres, or number of animals or birds. The contractee has a minimum amount of risk since the amount of payment to be received is agreed upon prior to or during the production period. The contractee does not receive the commodity’s full market value and may have quality or other adjustments.

**Corporation** – A legal form of organization separate from its owners (shareholders), created (incorporated) under the laws of the State.

**Cost of Production** – The average amount in dollars per unit used in growing or raising a farm product, including all purchased inputs and sometimes including allowances for management and the used of owned land. The cost may be expressed in units of bushels, pounds, tons or per acre, depending on the product involved.

**Cover Crop** – Any of several plants, such as rye, wheat, or oats, sown in the fall to make sufficient growth before winter to aid in protecting soil from wind and water erosion.

**Crop** – A plant which is harvested for use by people or livestock.

**Cropland** – Land which can produce a crop for harvest. Cropland includes land cropped, idle land suitable for cropping, land in orchards, etc. Do not include woodland, marshes, or land suitable only for pasture.

**Editing** – Reviewing completed questionnaires for reasonableness and validity. Unusual but correct responses should be flagged and explained with notes indication it was verified with the respondent. With impossible data relationships, probe for the correct responses.

**Fallow** – Cropland left uncropped during one growing season to conserve moisture in the soil, control weeds, and allow the decomposition of crop residue.

**Farm** – Land classified under one operating arrangement on which there was or could be sales of at least $1,000 worth of crops, livestock, poultry, or other agricultural products during the year.

**Free-of-Charge** – An operating arrangement where a producer uses a resource owned by someone else and not pay for its use.
**Government Program Land** – Non-government land enrolled in a government program such as the former long-term (10 year) Conservation Reserve Program (CRP), Acres in Conservation Reserve (ACR), Conserving Uses (CU), or any other federal land diversion program.

**Gross Value** – Value of a commodity after adjusting for discounts and premiums, not including deductions for handling, cleaning (except dry edible beans), storage, grading, drying, etc.

**Hired Manager** – A person who is paid a salary, wage, or commission to operate land for another person, corporation, or other organization is considered a hired manager. A hired manager makes the day-to-day decisions on the operation and may supervise others.

**Idle Land** – Farm land that is tillable and capable of producing a crop without major clearing of trees and stones or drainage of water but is not being cropped, pastured, or fallowed.

**Inaccessible** – A sample unit which cannot be contacted, interviewed, enumerated, etc., during the survey period.

**Integrated Pest Management** – The control of one or more pests by a broad spectrum of techniques ranging from biological means to pesticides. The goal is to keep damage below certain economic levels without eliminating the pest completely.

**Intentions** – An estimate of probable future action based on current plans reported; i.e. acres to be seeded to soybeans or sow to be farrowed.

**Landlord** – The owner of land or buildings which are rented to another person for cash, a portion of the crop or livestock, other proceeds, or free.

**Non-Response** – Failure of a respondent to reply to a survey questionnaire; may be item non-response (refuse to answer one or more questions), survey non-response (refuse to answer any or most of the questions), or inability of enumerator to locate respondent during the survey period.

**Nursery** – [Plants] Any place where plants, shrubs, and trees are grown either for transplanting or as grafting stock. [Livestock] A building especially designed and controlled for raising young animals, usually calves or pigs.

**Operating Arrangement** – A managerial organization of farm or ranch operations by which day-to-day decisions are made.

**Operator** – The person responsible for all or most of the day-to-day decisions such as planting, harvesting, feeding, or marketing for the tract or total land operated. The
operator could be the owner, hired manager, cash tenant, share tenant, or a partner. If land is rented or worked on shares, the tenant or renter is the operator.

**Orchard** – An acreage of planted fruit or nut trees.

**Organic Farm** – A production system which avoids or excludes the use of synthetically compounded fertilizers, pesticides, growth regulators, and livestock feed additives. Organic farming systems rely upon crop rotation, crop residues, animal manures, legumes, green manure, off farm organic wastes, mechanical cultivation, and aspects of biological pest control to maintain soil productivity and tilth, to supply plant nutrients, and to control insects, weeds, and other pests.

**Out-of-Business** – A previous farm or ranch operator who no longer makes the day-to-day decisions on land suitable for agriculture; raises no crops, livestock, or poultry. They may own farmland which is rented to someone else.

**Partner** – An individual within a partnership. A partnership is a land operating arrangement where two or more persons contribute some combination of land, labor, capital, equipment, materials, and management. Each person participates in day-to-day management decisions and shares in profits or losses, but not necessarily on an equal basis.

**Pasture** – An enclosed area of untilled ground covered with vegetation and grazed by animals.

**Poultry** – Any or all domesticated fowls raised primarily for their meat, eggs, or feathers, such as chicks, turkeys, ducks, and geese.

**Questionnaire** – A form or computer program (BLAISE) used to ask specific questions from and to record the response given by selected sample units to the survey questions.

**Ranch** – Similar to a farm, except primarily involved in raising livestock, usually on pasture or rangelands.

**Rangelands** – Unimproved, non-irrigated pasture or grazing land not suitable for growing crops. Ground covered by natural vegetation only.

**Refusal** – A person representing a sample unit who will not cooperate in the survey and who refuses to provide sufficient information to satisfactorily complete the questionnaire, or who will not give an enumerator permission to complete the field counts or measurements.

**Respondent** – The person who provides the information necessary to complete a survey interview.
Retired – A previous farm or ranch operator who is now out-of-business because he/she has reached an age to retire from farming or ranching. He/she may still own farmland is being operated by someone else.

Sample – Sampling units selected from a sampling frame.

Share Rent – Method of paying rent, where the owner receives a share of the crop, livestock (or product, such as milk or wool) as payment for use of land, buildings, equipment, livestock, etc.

Sharecropper – A tenant who shares the crop, livestock, and/or livestock products with the landowner, who often extends credit to and closely supervises the tenant. The sharecropper generally supplies only labor.

Survey – The collection of data pertaining to specific sample units. A sample is selected, and information collected from individual sampling units.

Survey Period – The time period during which survey data collection can occur. Primarily determined by the survey’s reference date and due date.

Woodland – Land primarily in trees which may occasionally be pastured or grazed.
3 Survey Procedures

3.1 Questionnaire Introduction

The ARMS Phase 1-ISS uses standard questionnaires designed to target State specific crops for follow-on sampling. Arizona has a unique questionnaire. Therefore, some of the instructions that follow may not apply to states in your region.

It is very important that you interview the operator named on the label. The operator is the best source of accurate information. However, if the operator will not be available for an interview during the survey period, it is acceptable to interview someone else who is well informed about the operation.

Most of the contacts for the screening questionnaire will be by telephone, but a few will be completed by mail or personal interview. Before introducing yourself and the ARMS to a farm operator, become comfortable with the introduction you plan to use. The introduction should include:

- who you are,
- whom you represent,
- how long the interview may last, and
- a general purpose of the survey.

Use the information provided in Chapter 1 of this manual, the introduction printed on the questionnaire, and materials and instructions provided by the office survey statistician to develop an introduction that you are comfortable using.

3.2 Burden Statement

Federal regulations require that an estimate of the average time required for completion be provided with all questionnaires used by agencies of the Federal government. The burden statement regulation also provides the public with an opportunity to respond to the Office of Management and Budget (OMB) regarding any aspect of a survey. This regulation is administered by the OMB which has the duty of approving and overseeing government data collection efforts.

The burden statement average time requirement may represent the actual average completion time as recorded in previous years of the survey or it may represent an estimated average completion time based on pretesting of any new questions.

Respondents often ask, “How long will this take?” Enumerators should note the burden statement average time requirement and never directly contradict it. However, enumerators may provide additional information, such as, “The official average for this survey is 15 minutes, but interviews I’ve been doing in this area have been anywhere from 5-10 minutes.”
4 Operation Screening

A list of farm operations in each State was sampled based on information about crop acreage, including vegetables, and livestock reported by the operation in the past. Agribusiness firms and agricultural services that do not have crops or livestock of their own should have been excluded from the sample, but it is possible some names were misclassified. Screening questions help determine if the selected name is eligible for ARMS.

Abnormal (Institutional) farms, such as prison farms, private or university research farms, and not-for-profit farms are to be excluded from subsequent phases. These types of farms generally have production practices, costs, and returns that are not typical for the population of interest. Notify your supervisor or the survey statistician if your assignment includes any of these farms.

Before collecting any ISS commodity or value of sales data, be sure to:

- Identify the sampled operation and the Target Name.
- Verify the name and address information.
- Screen the operation for agricultural activity.
- Determine the current status of the land if the Target Name is not involved in agricultural activity.
- Determine the operating arrangement.
- Determine if the operation is a Landlord.

The remainder of this chapter discusses the methods for operation screening.

4.1 Identifying the Sampled Operation

4.1.1 Target Name Rules

Displayed on the label will be an individual's name (Whole Name). In some cases, a farm or ranch name (Operation Name) or a combination of individuals' names may be present.
Rule #1: The Target Name (the individual name) is the sampled unit. Information collected will focus on this individual.

Consider the following examples:

**Figure 4.1:** Individual Target Name listed on the label.

Ima P. Farmer  
RR 4 Box 36  
Anytown, YS 12345

You should collect data for all operations (non-managed) Ima is involved in. If Ima is involved in more than one operation (an individual row crop operation and a partnership cattle operation), then two questionnaires must be completed. The original questionnaire should contain the data for the individual operation. A second questionnaire must be completed for the partnership operation with the partner(s) names listed in the blank space on the back of the questionnaire. If Ima is involved in a partnership operation only, then the original questionnaire should be completed for the partnership operation and the partners should be listed on the back page.

**Figure 4.2:** Combination of Names with Individual Target Name listed on the label.

Erma & Ama Farmer  
Ima Farmer  
RR 2 Box 19  
Anytown, YS 12345

In this example, Erma Farmer is the Target Name. You should collect data for all operations (non-managed) Erma is involved in. The partnership or combination of individual names is listed to let you know Erma was involved in a partnership with Ama in the past. You should complete the original questionnaire for the partnership if it still exists. Complete a separate questionnaire(s) for any other operation(s) Erma is involved in. If the partnership no longer exists, make a note, correct the label to delete Erma and Ama Farmer, and complete the questionnaire for Erma's individual operation.

**Figure 4.3:** Operator is Target Name.

NASDA Acres Farm  
Ura Farmer  
RR 3  
Anytown, YS, 12345

In this example Ura Farmer is the Target Name. You should collect data for all operations Ura is involved in. The name NASDA Acres Farm is included to let you know Ura used this farm name in the past. You should complete the original questionnaire with Ura Farmer's individual information. If Ura Farmer is involved in a separate
partnership operation, complete a separate questionnaire. If you determine Ura Farmer is still operating but not as NASDA Acres Farm, mark through the farm name, write a note on the questionnaire, and complete the original questionnaire to include information for Ura Farmer’s operation.

Figure 4.4: Operator with Multiple Operations (OpDom – 85/45).

This is an example of two operating arrangements for the target, Hes A. Farmer. The OpDom 45 label was generated because Hes reported two separate operations on a previous survey. You should complete each questionnaire accordingly. If either one no longer exists, an explanatory note is necessary. Complete a questionnaire for any and all operations Hes is involved in. More than two questionnaires are possible.

Because this is a screener survey for ARMS Phases 2 and 3 sampling, it is very important that information (including names, addresses and data) is collected for all of the operations associated with the Target Name. The operation contacted for the ARMS – Phase 1-ISS may or may not be selected for subsequent phases. When there are multiple operations (OpDom 85/45), only one of the operations will be randomly selected for the follow-on phase(s).

Rule #2: Information for managed operations will always be collected for the Operation Name on the label.

Figure 4.5: Operation with Manager.

This label suggests NASS Inc. is a managed operation. If this is true, complete the questionnaire for NASS Inc., regardless of Serv’s involvement. This data collection rule is true for all managed operations.

Once the questionnaire for the managed operation is completed, Rule #1 applies to the person managing the operation. An additional questionnaire must be completed if Serv has a separate individual or partnership operation. In the case where Serv Farmers operates a farm or ranch and has no association to NASS Inc., correct the label, write an explanatory note, and complete the questionnaire for NASS Inc. and an additional questionnaire for Serv Farmers’ operation.
Rule #3: Information for OpDom 99 operations will only be collected for the operation named on the label.

[OpDom – 99
Independence Avenue Acres Farm
Bea Farmer
RR 2 Box 111
Anytown, YS 12345]

Figure 4.6: OpDom – 99 Operations Require Special Handling.

This example shows an OpDom 99 operation. Your office will use an OpDom status code of 99 to indicate that the target name is the **Operation Name** shown on the label, and not the individual’s name. You will only complete one questionnaire for the operation named on the label. Even though the individual named on the label (Bea Farmer) may be involved in other operations, you will not complete additional questionnaires for the other operations. The designation of OpDom 99 is reserved for extremely large or complicated operating arrangements. Your Field Office will provide special instructions for handling OpDom 99 situations.

Examples of typical OpDom 99 operations include:

1. Operations with numerous operating arrangements and each operation is maintained as a separate OpDom 99 record by your Field Office to minimize respondent burden.
2. Large, stable firms that may readily change managers or operators.
3. Operations that may require different individuals to be contacted for various types of data (for instance, a University Farm or Prison Farm).
4. Farms or ranches identifying individuals who manage more than one operation.
4.2 Verify Name and Address Information - Label

Verify the correct spelling of the name(s) and that the address is complete. Make corrections on the label. Examples of common corrections are:

<table>
<thead>
<tr>
<th>Complete Address</th>
<th>Middle Name is Agreat</th>
</tr>
</thead>
<tbody>
<tr>
<td>You R. Farmer, RR 1 5 Elm Drive Anytown, YS 12345</td>
<td>Shes Farmer RR 1 Box 50 Anytown, YS 56789</td>
</tr>
<tr>
<td>Beta isn’t a Partner</td>
<td>New Manager: Echo Foxtrot</td>
</tr>
<tr>
<td>Alpha &amp; Beta Sanders Tom Sanders 9295 Old Hwy 22 Anytown, YS 01234</td>
<td>NASS Ranch Charlie Delta, Mgr RR 2 Box 99 Anytown, YS 43212</td>
</tr>
</tbody>
</table>

Figure 4.7: Common Corrections to Names and Addresses.

Most post offices will not deliver third class mail if the address is not complete. In many cases, a rural route number is not sufficient if the Target Name also has a box number.

4.3 Screening for Agricultural Activity – Item 1

These items determine if the operation is “in business” at any time during 2022. If an operation was in business during part of 2022 but went out-of-business during the year, the operation still qualifies for contact in follow-on phases. The focus of the ARMS, FCCUS and VCUS is on production practices, including chemical usage, and financial characteristics of operations that operated any time in 2022. **Complete a questionnaire for the part of the year during which the operation did business.**

Be sure to check the appropriate box in Item 1. If the answer to the question is YES, **skip to the Total Acres Operated section.** If **any** of these statements are true for the operation, the operation is considered “in business”.

If **all** statements in Item 1 are NO, complete Item 1a. If item 1a is YES, complete item 1b, then go to the Conclusion on the back page. If item 1a is NO, complete item 1c, then go to the Conclusion on the back page.
4.3.1 Crops in 2022
To qualify as growing a crop, the operation must have made the decisions on planting, caring for, and/or harvesting the crop. **This means that landlords should not report crops grown by others on land they rent.** It may be necessary to point out that the term “crops” includes any field crops, fruits, vegetables, miscellaneous crops, Christmas trees, maple syrup, and short rotation woody crops (softwood varieties grown for pulpwood).

Include:
- field crops, hay, fruit and nut crops, oilseeds, vegetables, mushrooms, flowers, nursery stock, greenhouse crops, Christmas trees, etc.

Exclude:
- home gardens, commercial timber, and landlord share of crops received as payment for land rented to someone else.
- LANDLORD ONLY OPERATIONS.

4.3.2 Livestock or Poultry in 2022
Livestock owned by this operation as well as any livestock this operation is raising under contract for another person or firm, should be included.

Include:
- all cattle, hogs, sheep, mules, goats, broilers, chickens, turkeys, ducks, geese, bees, rabbits, mink or other fur bearing animals, and fish that are raised commercially or for home consumption. FFA and 4-H livestock projects should also be included.
- livestock and poultry being raised by this operation under contract for another person or firm.

Exclude:
- operations that **ONLY** have FOUR OR FEWER pleasure horses, and any number of other animals kept only for pleasure use or as pets.
- horse boarding operations, riding stables, or race-horse training operations that do not have other agricultural items.
- **Slaughter or packinghouses, auction barns, stockyards, or order buyers.** These operations have livestock which are committed for slaughter. The presence of these livestock alone does not qualify an operation for the survey.
- LANDLORD ONLY OPERATIONS.
4.3.3  **Sales of Agricultural Products**
The respondent should include the sales of crops, livestock, fish, and other products from the total land in the operation. Exclude situations where the respondent is a landlord who only sold agricultural products received as share rent from land which was rented out.

4.3.4  **Government Agricultural Payments**
Include any government payments received under the farm program, conservation programs, etc. Do not include program payments received by landlords for land rented out to someone else.

4.3.5  **Idle Cropland and Pastureland**
The determination of whether an agricultural establishment qualifies as a point farm is made by assigning specific point values for crop acreage and livestock inventory. Each assigned point represents one dollar in potential sales, and a point farm is any establishment with at least 1,000 points. Operations with more than 99 acres of pastureland or operations with 20 acres of idle cropland and no other agricultural commodities qualify as point farms. It is necessary to correctly identify these point farms to ensure their representation in the summary.

4.3.6  **Change in Operator – Items 1a and 1b**
Complete Items 1a and 1b ONLY if the operator named on the label is not involved in agricultural activity (none of the screening statements in Item 1 are true for the selected Target Name.)

If the Target Name does not have any of the items mentioned in Item 1, then the operation is out-of-business, and is ineligible for ARMS Phase 2 and Phase 3 follow-on sampling. This section determines if the land previously operated by the Target Name has been taken over by another operator or operation.

This information is important for updating the RFOs list of farm operators.

4.3.6.1  **Operation Turned Over to Someone Else – Item 1a**
If the Target Name is completely out-of-business, it is important to ascertain whether the operation and/or the land the Target Name was farming previously was sold, rented to, or turned over to someone else.

If NO:  **Current Status of Land**

If the land has not been turned over to someone else, it is necessary to determine if the Target Name could come back into the “farming business” in the future. This follow-up question will help you probe to determine the status of the target operation. **Notes are very important.**

If YES:  **Turned Over to Someone Else**
If the respondent reports that the operation was turned over to someone else, then complete Item 1b.

4.3.6.2 Name & Address of New Operator – Item 1b
If the respondent reports that the operation was turned over to someone else, it is necessary to obtain the name and address of the person who took over the operation.

**Do not complete a screening questionnaire for the new operator**
5 Completing the Questionnaire

5.1 General Information

The main purpose of the ISS is to identify operations that are in-business, in-scope, and will grow/raise the targeted commodities in order to qualify for subsequent ARMS, FCCUS and VCUS sampling. All states use the same questionnaire version except Arizona. Some items may not pertain to both questionnaire version (see section 5.2.4 marked Arizona Only).

5.2 2022 Total Acres Operated

5.2.1 Land Tenure

The ISS questionnaire contains a series of questions to determine the total acres of land in the Target Name’s entire farming or ranching operation. These items are important to clearly define the operation reported in the questionnaire.

In general, land reported in the Total Acres Operated Section will fall into one of the following categories:

- Cropland
- Idle Land
- Pasture
- Summer Fallow
- Wasteland
- Wild Hay Land
- Woodland

Include:

- all acres owned.
- land rented/leased from others (private individuals, partnerships, corporations, and Federal, State, or local governments) if the Target Name:
  - pays cash rent on a per acre basis.
  - pays for the land with a share of the crop (either standing or harvested) or livestock.
  - uses the land rent free.
- all cropland, woodland, wasteland, wetland, pasture, idle land, and government program land regardless of location, if the operator made the day-to-day decisions for that land under this operating arrangement.

If an operator living in your State made the day-to-day decisions for land.
across state lines, that land should be included in this section.

- non-agricultural land if the land could be used to grow crops or graze livestock in future years without major improvements
- land worked by sharecroppers. Share crop operations are considered part of the landlord’s operation. A sharecropper furnishes ONLY LABOR (their own and often that of their family) for a share of the crop. Sharecroppers generally furnish no machinery, capital, or other production inputs.
- all land (owned or rented) used by a son or daughter for 4-H or FFA projects, if the parent’s equipment is used.
- land on which crops were grown under contract, if the land-owner furnished machinery or controlled the seeding, growing and harvest of the crop.
- land on which the operator fed livestock under contract for someone.

Exclude:

- all acres rented/leased to others for cash, rented to others for a share of the crop or livestock production and all acres this operation allows another operation to use rent free.
- parcels of nonagricultural land separate from the operation which have been permanently withdrawn from agricultural uses. This includes land in sub-divisions, commercial buildings, etc.
- any land this operation used as pasture or for grazing livestock if payment was on a per head or AUM basis.
- land on which the respondent's livestock were fed under a contract (for example, commercial feedlots).
- land in other operating arrangements. If the Target Name makes day-to-day decisions for a farm or ranch other than the one identified on the label, the land in the other operating arrangement should not be reported on this questionnaire. Additional operating arrangement(s) other than the one on the label requires an additional questionnaire(s).

5.2.2 Total Acres Operated
The respondent is asked to report for the following acres to get total land:

1. owned
2. rented/leased FROM others
3. rented/leased TO others

Total Acres Operated, Item Code 900, for this operation is computed by adding the
acres of land owned plus acres rented from others, and then subtracting the acres rented to others. **Acres rented to others are not considered a part of the Target Name’s operation since the target no longer makes the day-to-day-decisions on the parcel which is rented out.** Crop acreage and production items are to be reported only if produced on the total acres operated.

### 5.2.3 Cropland Acres

Of the **Total Acres Operated**, enter the number of acres considered to be cropland in Item Code 802. Cropland is any tillable land currently in crop production or land that has previously been tilled and used for crops and could be tilled again without additional improvements.

#### Include:

- land in crop-pasture rotation and cropland used for pasture or grazing during the current year.
- land in summer fallow.
- idle cropland (no crops planted or harvested in current year).
- cropland diverted for government programs (including CRP), unless the land is planted to trees.
- fruit orchards, vineyards, nut trees, and citrus groves.
- vegetables, melon crops, and other specialty foods.
- nursery crops, turf grass, sod, and Christmas Trees.
- land in hay crops, **excluding** wild hay.
- Pasture-land tilled in the past if the land could be tilled again without first clearing brush, trees, undergrowth, etc.

#### Exclude:

- pasture and rangeland that has never been tilled.
- wild hay land. Although wild hay is considered a crop, wild grasses cut for hay should not be included in acres of cropland.
- government program acres planted to trees. These acres are woodland.
- woodland and wasteland.

### 5.2.4 Arizona Department of Agriculture (Arizona Only) AZDA-ESD

**Mandatory Reporting ID (Pesticide Grower Permit)**

The data collected for each operation in this survey will be matched with chemical and pesticide use reports which must be filed with the Arizona Department of Agriculture - Environmental Services Division through the producers in Arizona. Record the ID under which operation makes chemical and pesticide use reports to the AZDA-ESD for the
acres reported. This ID is strictly numeric.

Additional Operations Reported Under ID

Since a one-to-one match must be made between NASS records and AZDA-ESD reports, we must know whether the operation named on the face page is the ONLY operation which uses the ID reported for making reports. Usually, only one operation is associated with an AZDA-ESD ID. If other operations use the ID, record the name, address, and phone number for each additional operation.

Other Pesticide Grower Permits

If the operation uses more than one reporting ID, note the additional ID(s) that associate the operation with all the chemical and pesticide used during 2020.

Additional Permit Numbers Used

Record any additional reporting ID(s) used by the operation named on the face page.

Additional Operations Using an ID

Again, note the names, addresses, and phone numbers of additional operations using any of the ID(s) associated with the operation named on the face page. If another operation is using one of these other ID(s), indicate which additional ID(s) is involved and which additional operations are using the ID(s).

5.3 2022 Crops

AZ, CA, CO, ID, IL, KS, KY, ME, MI, MN, MO, MT, NE, NM, NC, ND, OH, OK, OR, SD, TN, TX, WA, any WI only.

General Rules

The following rules apply for recording planted acres on the screening questionnaire:

- Acreage values are to be entered in whole numbers.
- Report acreage planted and to be planted for all purposes.
- Report acreage planted to the same crop only once, even if the same acreage was replanted to the same crop.
- Report acreage planted to one crop and then replanted to a second crop as acres planted to each crop, even if one or both crops are not harvested.
- Report acreage planted and later plowed down, hogged off, grazed, or abandoned, including cover crop acreage, to the specific crop planted.
- Report volunteer crop acreage as planted only if the acreage will be
harvested for grain, silage, etc. Volunteer crops are crops that sprout from seed that had fallen from the previous year’s crop.

- Report acreage planted, but later entered in government diversion programs.
- When strip cropping is practiced, acres should always be prorated according to the number of rows for the specified crop. If two crops or uses are in alternating rows or strips (2 rows, 4 rows, etc.) in the same field, half the total acreage should be reported as each use. This is true regardless of the crops or land uses in the field.

**Example:** Soybeans and corn are planted in alternating strips in the same 10-acre field. Record 5 acres of soybeans planted.

It is possible for the respondent to answer, "I don't know" to the crop acreage questions since all of the 2022 acreage may not have been planted at the time of this interview, particularly in double-cropping situations. When this happens, it is important to probe in order to find out what the operator intends to plant. Be sure to note on the questionnaire that the reported acreages are “intentions”.

The respondent might be able to report that he/she has or will grow the target crop during the 2022 crop year but be unable to estimate the acreage for the crop. Also, if interviewing someone other than the operator, the respondent may know that the crop of interest was planted or will be planted, but not the acreage. In this case, write or enter ‘DK’ for “doesn’t know” next to the cell provided for the acreage response. This will indicate that the grower has or will have acreage of the target crop, but the acreage is unknown.

**Use ‘DK’ when the crop is planted or will be planted, and the respondent is unable to report the acreage.**

**Do not use ‘DK’ if the respondent is unsure if the crop(s) will be planted.** In this case the questionnaire cannot be considered complete. An attempt should be made to contact a more knowledgeable respondent, or else the questionnaire must be coded “inaccessible”. Using ‘DK’ incorrectly will defeat the purpose of screening.
5.3.1 Winter Wheat – Select States ONLY (18)
States Involved: CO, ID, IL, KS, KY, MI, MO, MT, NC, NE, NM, OH, OK, OR, SD, TN, TX, and WA.

In Item Code 540, record winter wheat acres planted for all purposes (both single and double cropped) in fall 2021 for the 2022 crop year. Include acres planted which were harvested then replanted to another target commodity, which were harvested during the same crop year (double cropping), should be recorded as acres planted to wheat and also planted to the second crop. Also include acres planted that were (or will be) abandoned, used for cover crop, plowed under, cut for hat, etc. Exclude mixtures of wheat, oats, barley, and other grains planted on the same acreage. Also, Exclude crops grown on acres that are rented or leased to others.

5.3.2 Durum Wheat – Select States ONLY (5)
States Involved: AZ, CA, ID, MT, and ND

In Item Code 553, durum wheat planted and to be planted for all purposes in fall 2021 or spring 2022 for the 2022 crop year. Include acres planted that were (or will be) abandoned, used for a cover crop, plowed under, cut for hay, etc. Exclude mixtures of wheat, oats, barley, and other grains planted on the same acreage. Also Exclude crops planted on rented and/or leased to others.

5.3.3 Spring Wheat – Select States ONLY (6)
States Involved: ID, MN, MT, ND, SD, and WA

In Item Code 550, spring wheat (other than durum) planted and to be planted for all purposes in fall 2021 or spring 2022 for the 2022 crop year. Include acres planted that were (or will be) abandoned, used for a cover crop, plowed under, cut for hay, etc. Exclude mixtures of wheat, oats, barley, and other grains planted on the same acreage. Small grain mixtures are considered an “Other Crop,” and should not be counted in any of the wheat acres. Also Exclude crops planted on land rented/leased to others.

5.3.4 Potatoes – Select States ONLY (9)
States Involved: CO, ID, ME, MI, MN, ND, OR, WA, and WI.

Include acres planted during the fall/winter of 2021 for the 2022 crop year. Record, in cell 884 Acres Planted and to be Planted.

Record in cell 1378, Acres Harvested and to be Harvested. Exclude sweet potatoes.

5.3.5 Vegetable Crops – Select States ONLY (18)
States Involved: AZ, CA, FL, GA, IL, IN, MI, MN, NC, NJ, NY, OH, OR, PA SC, TX, WA, and WI.

Total Vegetable Acres:
Of the total acres of cropland reported, enter the number of acres planted to all vegetable crops in cell 803.

Include:

- double or other multiple croppings,
- acres of vegetables not specified in the questionnaire,
- acreage planted in strawberries, and
- crops planted in the fall of 2021, if they were part of the 2022 crop year.

**Acres of Target Vegetable Crops**

The main purpose of this entire section is to get the total planted and to be planted acres of each of the target vegetable crops for harvest during the 2022 crop year. The fall chemical use sample will be selected based on this data.

Include:

- acres that have already been planted and harvested,
- acres planted, but not harvested yet, and
- acres not yet planted if they will be planted and harvested during the 2022 crop year.
- acreage of target vegetables for roadside stands, farmer’s markets or pick-your-own sales.
- acreage planted but not harvested due to weather, economic or other conditions.

In addition, be sure to count each planting in double or other multiple crop situations. **Example:** A grower plants two broccoli crops on the same 50 acres of land, enter 100 acres planted in the cell provided.

Exclude:

- home garden.
- new plantings and other plantings which are not yet bearing (for example, strawberry plantings).
- acreage grown for commercial transplanting.
- crops grown in greenhouses.
- vegetables grown for seed only.
5.4 Value of Sales

5.4.1 2021 Gross Value of Sales – Item 1

The Check box which lists the category that best describes the gross value of sales in 2021 is no longer used on this questionnaire. If the operator had sales of less than $1,000 in 2022, continue to item 1a and complete the crops, other land uses, and livestock table. If sales were greater than or equal to $1,000, check the “YES” box and continue to Item 2.

For operations that report less than $1,000 or ‘NONE’, ask the operator to report all crops, other land uses, and livestock on hand. If the operation had less than $1,000 value of sales for 2021, additional information is needed to determine if the operation normally would have produced at least $1,000 worth of agricultural commodities. Obtain each land use on the operation, including all crops that were grown in 2021, pasture, cropland, etc.; and all livestock now on hand including cattle, hogs, sheep, poultry, etc. Be specific as to the land use, crops, and type of livestock. The Regional Field Office will calculate a point total for the items recorded in this item to determine the operation’s potential value of sales for 2021.

Include:

- sales of products raised on the total acres operated.
- the value of any commodities given to the landlord for rented land.
- all production from 2021 and earlier years sold during 2022.
- all sales of livestock and poultry during 2022.
- sales of all types of horses.
- sales of miscellaneous agricultural products such as honey, furs, fish, nursery and greenhouse products, rabbits, Christmas trees, etc.
- all government program payments received in 2021 (excluding payments received from land rented to others)
- total equity or premium payments or CCC loans transferred to others or repaid by others in 2021.
- value of products removed from the operation under production contracts.
- the estimated value of product removed from contractee operations.

Exclude:

- prizes or winnings from horse racing or showing.
- any money received through the sale of commodities received as share-rent payment for land rented out.
- other farm-related income such as grazing income, timber sales, and insurance payments.
5.4.2 Farm Type – Item 2
Enter the appropriate farm type code in cell 862 that represents the largest portion of the gross income from the operation. For operations that receive the majority of their gross income from government payments, input the code to reflect the type of farm that qualifies them to receive these payments.

5.5 Operation Type

Check the appropriate box to indicate how the day-to-day decisions are made for the operation.

1. **Individual Operator:** The Target Name makes all day-to-day decisions. This Target Name may be the land-owner, or a person who is renting or leasing land.

2. **Hired Manager:** A hired manager is a person paid by the Target Name to make all day-to-day decisions. Key criteria for checking hired manager are (1) the person is paid by the owner; and (2) the person is responsible for day-to-day decisions.

3. **Partners:** Each person in the partnership contributes to making day-to-day decisions. Partners may or may not share equally in day-to-day decisions. Landlord-tenant, cash rent, and share crop arrangements are not considered partnerships.

If the decision maker is an individual operator (the Target Name), or a hired manager, check the appropriate box and go to the Conclusion. If the operation is a partnership, continue to Item 1a and 1b, then go to the Conclusion.

5.5.1 Number of Partners – Item 1a
Enter the number of partners, **including the operator**, in the box provided. Then, continue with Item 1b.

5.5.2 Partners Name and Address – Item 1b
If the questionnaire has pre-printed partner names and addresses or partners’ names appear on the Blaise screen, verify with the respondent that the information is correct. If partners are no longer involved in the operation, cross out the pre-labeled name on the paper version, or delete inactive partners on the Blaise screen, and make appropriate notes. If partners have been added to the operation, enter the names and addresses of additional partners.

Include:

- Only partners who share in decision making for this operation.
Exclude:

- Landlords, tenants, and any 'silent partners' who do not share in the day-to-day decision making for this operation.

**5.6 Conclusion**

**5.6.1 Operator Involved in Additional Operations**

Ask only if the operation named on the label is NOT an OpDom=99 record.

This item determines if the Target Name makes day-to-day decisions for another farm or ranch.

Include:

- A person who operates a farm or ranch as an individual operator and is also a partner in a partnership operation;
- An individual operator who also manages a separate operation; and
- A partner in one operation who is also involved in another partnership.

Exclude:

- Landlord, tenant
- cash-rent arrangements, and
- share crop arrangements.

Rental or share crop arrangements are generally not separate land arrangements, and should be included as part of the operation in the original questionnaire.

When the Target Name on the label is also involved in another operation, complete a separate questionnaire for each operation, unless specifically instructed otherwise by the Regional Field Office or your survey coordinator. Use a separate questionnaire, copy the identification information onto the Face Page, and obtain all name and address information, and all applicable crop and livestock data for this additional operation.

If the Regional Field Office is already aware of the additional operations associated with the target operator, there should be a pre-labeled questionnaire attached to the parent questionnaire. Complete these additional questionnaires one at a time with the respondent.

Verify the names and addresses of these additional operations and whether the Target Name is still involved with each. Verify any partner labels for these operations, and add the names of any partners that are not already listed.

If the Target Name is no longer associated with the pre-labeled additional operation
(OpDom=45), complete the Change in Operator Status section for the additional questionnaire, noting the new operator and the status of the land.

If the parent operation (OpDom=85) is no longer operational, but the pre-labeled additional operation (OpDom=45) is still active.

- complete the Change in Operator Status section of the OpDom=85 questionnaire to document why the operation will not be actively farming in 2018,
- complete all applicable items on the OpDom=45 questionnaire.

After completing each pre-labeled questionnaire for the additional operations, find out if the target operator is involved (either as an individual operator or a partner) with any more operations. Complete questionnaires for these operations also.

5.6.2 Coding Questionnaire Completion Items

**Name and Telephone Number:**
Upon completion of the interview, write in the operation e-mail if applicable in cell number 9937, and the operation phone number in cell number 9936. If the phone number is a cell number, please check the cell phone box. Write in the name of the respondent in cell 9912 and enter the telephone number of the respondent in cell 9911 on the back of the questionnaire. If the telephone number that was provided is a cell phone number, check the cell phone box.

**Response Code:**
Upon completion of the interview, enter the response code in cell 9901 on the back of the questionnaire. Valid response codes for the ARMS – Phase 1-ISS are:

- Code 1 = Complete
- Code 2 = Refusal
- Code 3 = Inaccessible
- Code 4 = Office hold
- Code 5 = Refusal - Estimated
- Code 6 = Inaccessible Estimated
- Code 7 = Office hold - Estimated

Codes 5-7 are for RFO statistician use only in limited circumstances.

**Respondent Code:**
The Response Code identifies the person who was interviewed. Enter the code
identifying the person who provided most of the data in cell 9902. Valid response codes for the ARMS Phase 1-ISS are:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Operator or Manager</td>
</tr>
<tr>
<td>2</td>
<td>Operator’s Spouse</td>
</tr>
<tr>
<td>3</td>
<td>Accountant or Bookkeeper</td>
</tr>
<tr>
<td>4</td>
<td>Partner</td>
</tr>
<tr>
<td>9</td>
<td>Someone other than code 1, 2, 3, or 9</td>
</tr>
</tbody>
</table>

**Mode Code:**
The mode code identifies how the person was interviewed. Enter the code identifying the mode in cell 9903. Valid mode codes for the ARMS Phase 1-ISS are:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mail</td>
</tr>
<tr>
<td>2</td>
<td>Telephone</td>
</tr>
<tr>
<td>3</td>
<td>Face-to-Face</td>
</tr>
<tr>
<td>4</td>
<td>CATI</td>
</tr>
<tr>
<td>5</td>
<td>Web</td>
</tr>
<tr>
<td>6</td>
<td>E-mail</td>
</tr>
<tr>
<td>7</td>
<td>Fax</td>
</tr>
<tr>
<td>8</td>
<td>CAPI</td>
</tr>
<tr>
<td>19</td>
<td>Other</td>
</tr>
</tbody>
</table>

**Enumerator Number:**
Enter your enumerator ID number in cell 9998.

**Date:**
Record the date the questionnaire was completed. Enter the date in MMDD20 format on the lines provided in cell 9910. For example, if the interview was completed on June 1, 2022, enter the month and day 06 01 in the date cell. The 2-digit year is already preprinted on the questionnaire.
Questionnaire Review:
Review the questionnaire to make sure all necessary questions are answered, and all data are reasonable.